Direct observation of parent-child interaction based on attachment theory

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Direct Observation of Parent-Child Interaction based on Attachment Theory

by

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PhD. THESIS

Submitted for the degree of Doctor of Philosophy
University of London

August 2006

Statement of Authorship

The author of this thesis was responsible for the development of the observational measure of attachment-based dimensions of parenting in school-age children, the CARP. In developing the CARP, I operationally defined the categories to be coded and their measurement criteria. Further refinement and reliability for the new measure was conducted with the collaboration of Mandy Sharpley. I also took a main role in the refinement of operational and measurement criteria for behavioural categories used to assess social learning based parenting and child behaviour. Reliability on these measures was conducted by myself in collaboration with Mandy Sharpley.

All report-based and doll-play data were collected by the PALS research workers. The coding of doll-play data was conducted by Annabel Futh from the PALS team.

Under the supervision of Dr. Stephen Scott and Dr. Thomas G. O'Connor, I was responsible for the formulation of the study hypotheses and the application of the newly developed and refined observational measures to a community sample of at risk families who had been offered a parenting programme.

I randomly selected observational data that had been collected by the PALS team. I then coded the observations using the measures developed in this study. I had sole responsibility in the video coding of 86 parent-child observations, and for entering the data. The supervisors provided statistical advice, while planning and execution of the analysis was entirely my responsibility. Finally, I conducted the writing up of the thesis under the supervision of Dr. Stephen Scott and Dr. Thomas G. O'Connor.

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Abstract

Two theories of parenting have dominated research into parent-child relationships: Attachment and Social Learning Theory. Attachment-derived concepts of sensitivity and social learning based control strategies have both been implicated in the early development of conduct problems, however, these models lack integration at conceptual, methodological and intervention levels, and it is therefore not known to what extent each perspective is uniquely predictive of child outcome.

This study investigated the level of overlap between these theories of parenting and their contribution to child outcome. This involved: (1) comparing a newly developed observational measure of attachment-related parenting with a social learning based observational parenting scheme; (2) comparing both parenting measures with multi-method assessments of child disruptive and pro-social behaviour, and attachment representation; and (3) analysing change in attachment-related qualities of parent-child interaction following a social learning based parenting programme in a randomised control trial.

The Coding of Attachment-Related Parenting (CARP) assessed Sensitive Responding, Positive and Negative Affect and Mutuality in parent-child dyads of school-aged children through direct observation. The social learning parenting coding scheme measured observed frequency of parental child-centred vs. child-directive verbalisations. Observation and report methods were used to assess child behaviour and assessment of the child's attachment representation involved a doll-play task. The sample comprised 86 parent-child dyads from an at risk community sample.

Attachment-related parenting positively correlated with social learning based child-centred verbalisations (e.g. praise), however it did not correlate with child-directive verbalisations (e.g. commands). Only social learning based directives correlated significantly with child problem behaviour. Only attachment-related parenting was highly and positively correlated with child pro-social behaviour (e.g. social responsiveness), and was negatively

correlated with disorganised attachment representation. At 6 months follow-up, the effect of the social learning based parenting programme was to increase significantly Sensitive Responding, an attachment-derived concept.

In conclusion, the CARP is a reliable, stable and valid observational measure of attachment-related parenting in school-aged children. Attachment and social learning parenting conceptualisations are relatively independent and seem to uniquely contribute to differential child outcomes, however social learning behaviourally based interventions can improve attachment-related qualities of the parent-child relationship.

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List of Abbreviations

Abbreviation	Term
ADHD	Attention Deficit / Hyperactivity Disorder
ANOVA	Analysis of Variance
BCS	Behaviour Coding Scheme
CAB	Child Antisocial Behaviour
CARP	Coding of Attachment-Related Parenting
CAT	Child Attention on Task
CD	Conduct Disorder
CEA	Child Enjoyment with Activity
CGCS	Child Global Coding Scheme
CGF	Child Global Functioning
CII	Coder Impression Inventory
CNA	Child Negative Affect
CNB	Child Negative Behaviour
CPA	Child Positive Affect
D	Disorganised (pattern of attachment)
DPICS	Dyadic Parent-Child Interaction Coding System
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders - (Version IV)
DV	Dependent Variable
FICS	Family Interaction Coding System
GHQ	General Health Questionnaire
HOME	Home Observation for the Measurement of the Environment
ICC	Intra-Class Correlation Coefficient
ICD-10	International Classification of Diseases – Version 10
IT	Intention to Treat (Analysis)
IV	Independent Variable
IWM	Internal Working Model
IY	Incredible Years (Parenting Programme)
M	Mutuality
MCAST	Manchester Child Attachment Story Task
MSSB	McArthur Story Stem Battery
ODD	Oppositional Defiant Disorder
PACS	Parental Account of Child Symptoms (Interview)
PALS	Primary Age Learning Skills (Project)
PBCS	Parent Behavioural Coding Scheme
PCA	Principal Components Analysis
PCOG	Parent Child Observation Guide
PGCS	Parent Global Coding Scheme
PI	Parental Intrusiveness
PNA	Parent Negative Affect
PNB	Parent Negative Behaviour
PP	Per Protocol (Analysis)
PPA	Parent Positive Affect
PSOC	Parental Sense of Competence (Questionnaire)
RCT	Randomised Control Trial
SDQ	Strengths and Difficulties Questionnaire
SES	Socio-Economic Status
SLT	Social Learning Theory
SPOKES	Supporting Parents on Kids Education (Project)
SPSS	Statistical Package for the Social Sciences
SR	Sensitive Responding
SSP	Strange Situation Paradigm
VTST	Video Treatment – Standardised Treatment (Project)

Dedication

This thesis is dedicated to my mother, Vina Fialho (1955-2003) and my grandmother, Etelvina Matias (1926-2004), the two most important women in my life, whom I sorely miss. All my strength comes from you. I love you both and I hope I make you proud.

Acknowledgements

I would like to thank my supervisors, Dr. Stephen Scott and Dr. Thomas G. O'Connor for their support and assistance over the past four years. I would also like to thank the members of the PALS team and other researchers at the Department of Child and Adolescent Psychiatry without whom the conduction of this study would not have been possible. Particular thanks to Nicole Salter, Grace Tantam, and Kate Tull-Green for their numerous contributions in reliability meetings and refinement of coding schemes, and for providing me with excellent opportunities to unwind. I extend my gratitude to Fiona Scott for her prompt and helpful advice throughout, and to Annabel Futh for providing the MCAST coded data used in this study.

I am also thankful to my colleague Jonathan Williams for his very useful advice at the research and personal levels throughout the years.

Essential to the conduction of this work from the start was the financial support by the Foundation for Science and Technology - Ministry of Science, Technology, and Higher Education, Lisbon, Portugal (2000-2004). Also acknowledged is the assistance from the British Federation of Women Graduates (BFWG) Charitable Foundation (2005).

To my family and friends a warm thank you. In spite of the distance, you have all been a source of support and much needed encouragement along the way.

Clearly, the biggest thank you has to go to Keith. You have helped me to endure the last five years with unconditional love and support. I held on thanks to you. Thank you for taking good care of me.

"Attachment...does not just 'happen' naturally, but becomes about as parents deliberately teach their children [through modelling, social facilitation, and direct instruction] to love them and to understand human relationships"

(Hay & Vespo, 1988, on a revised Learning Theory of Attachment
cited in Durkin, 1995, pg. 83)

PREFACE

Externalising behaviours exhibited in early childhood refer to increased non-compliance and aggressiveness, and if persistent and left untreated would leave the child at an increased risk of academic failure, rejection by peers, drug taking, and criminality (Kazdin, 1987; Loeber & Farrington, 2001; Scott, 1998). Externalising behaviours are the most common form of psychiatric problem in the community and in referrals to child mental health facilities, with prevalence rates as high as 15% to 20% (Hill, 2002; Hofstra, van den Ende, & Verhulst, 2000). The cost of behavioural problems is high, both at the individual and societal levels (Knapp, Scott, & Davies, 1999). Children most likely to benefit from preventive interventions are those exposed to conditions of high social risk (Scott, O'Connor & Futh, 2005a).

Core concepts in Attachment Theory are parental sensitivity, positive affectivity and dyadic mutuality, whereas effective management/control strategies have been the main focus of social learning models of parent-child interaction (Cassidy & Shaver, 1999; Patterson, Reid, & Dishion, 1992). Both control strategies and patterns of sensitive responsiveness have been implicated in the early development of conduct problems in children (Greenberg, Speltz, & DeKlyen, 1993; Greenberg & Speltz, 1988; Patterson, 1982) as well as contributing to the child's healthy social-emotional and cognitive development (Maccoby & Martin, 1983). However, both the social learning and the attachment conceptualisations of parenting have remained unconnected by research so far (Kerns, Aspelmeier, Gentzler, & Grabill, 2001). Contributing to the persistent lack of conceptual and methodological integration of both perspectives are divergent views on what positive and/or effective parenting is, the specific child outcomes of most interest, which developmental stages should be targeted for study, and the measurement procedures adopted (O' Connor, 2002; DeKlyen & Speltz, 2001; Sutton, 2001). Consequently, attachment and social learning approaches to studying parent-child relationships have also been kept separate at the intervention level (Webster-Stratton & Hooven, 1998; Scott, 2003a).

Social learning based parenting interventions targeting child problem behaviour have been widely implemented and evaluated (Kazdin, 2005; Reid, Webster-Stratton & Baydar, 2004; Scott, 2002). Although specific programmes also provide training in 'responsive' parenting, the focus has predominantly been on teaching parents specific

behavioural skills to deal with disruptive children rather than concentrating on those aspects of the parent-child relationship that can reinforce the positive emotional bond between the two (Webster-Stratton & Hammond, 1997; Scott, Spender, Doolan, Jacobs, & Aspland, 2001a; McMahon & Forehand, 2003). Evidence attesting for the effectiveness of social learning based interventions in improving parenting skills and in reducing children's problematic behaviour is extensive (Lundhal, Risser, & Lovejoy, 2006; Serketich & Dumas, 1996). However, without a consideration of the extent to which the skills taught in a social learning based parenting programme might correspond to behavioural manifestations of attachment-based qualities of the parent-child relationship (e.g. sensitive responding), information on which specific parenting practices are more important in mediating changes in parenting quality and child outcome remains limited (Scott, 2002).

A crucial element in programme evaluation has been the identification of the most sophisticated methods of assessment to capture parent and child behaviour that could be targeted for change. A powerful method used to discriminate changes in parenting and child behaviour following interventions is direct observation (Gardner, 1992; Aspland & Gardner, 2003; Scott et al., 2005a).

In middle childhood, numerous coding schemes have been developed and validated to measure social learning based parenting behaviour targeted for change by interventions (Patterson et al., 1992; Forehand & McMahon, 1981; Robinson & Eyberg, 1981). These measures focus on specific types of management skills (e.g. clear vs. vague commands). The prevailing measurement approach adopted is micro-analytical (i.e. frequency counts of specified units of behaviour) (Aspland & Gardner, 2003; Dowdney, Mrazek, Quinton, & Rutter, 1984). This allows for fine-grained analyses of contingencies or patterns of reinforcement characteristic of dysfunctional cycles of interaction (Patterson, 1982; Dowdney et al., 1984).

In this age group however, there is no agreed valid observational measure of attachment-related parenting (O'Connor, 2002; Greenberg & Speltz, 1988). Furthermore, in post-infancy attachment measures, there is an emphasis on mental representations of attachment relationships and therefore parent behaviour is not assessed (Solomon & George, 1999; Bretherton, 2005). Attachment measures that assess parental sensitivity in pre-school and early school years have relied on the

observation of the phenomenon using separation-reunion procedures, and have mostly been used within cross-sectional designs. Also, their association with child antisocial behaviour in non-clinical at risk and multi-ethnic samples has been strikingly overlooked (Thompson & Raikes, 2003; Bakermans-Kranensburg, van Ijzendoorn, & Juffer, 2003; Ziv, 2005; Speltz, DeKlyen, & Greenberg, 1999a).

To address the prevailing lack of integration between attachment and social learning models of parent-child interaction at the conceptual, methodological and intervention levels, this study proposed the following. First, I aimed at developing a coding scheme to measure attachment-based parent and child behaviour as observed in everyday situations at home. The Coding of Attachment-Related Parenting (CARP) measures observed Sensitive Responding, Positive and Negative Affect and Mutuality. Second, the CARP will be compared to a social learning based measure of parenting behaviour - the Parent Behaviour Coding Scheme (PBCS). Comparison of the two measures allows an examination of the extent to which both conceptualisations of parenting overlap with one another. Third, a multi-method/multi-informant approach will be adopted to investigate the association between both measures of parenting and multiple indices of child outcome including adaptive and disruptive behaviour assessed via observation and report (interview and questionnaire), and child attachment representation assessed using a doll-play task. This strategy not only allows the examination of the extent to which both parenting models contribute to various indices of child outcome but also provides a more stringent validation test of the new measure. Fourth, by using both measures of parenting prior to the intervention and at 6 months follow-up, I aimed to examine whether a social learning based intervention was successful in changing (i.e. improving) attachment-based qualities of the parent-child relationship (e.g. sensitivity).

In summary, key aims of the study are:

1. To establish the reliability of a school-age attachment-based parenting coding scheme (i.e. CARP);
2. To examine the factorial, convergent and divergent validity of the CARP;
3. To investigate the degree to which an observational attachment-related parenting measure overlaps with a social learning based observational parenting measure;

4. To examine the association between observed attachment-related parenting and multiple measures of child behaviour (observation, interview, and questionnaire);
5. To assess the degree of agreement between observed attachment-related parenting and child attachment representation; and
6. To establish the discriminant validity of the CARP, i.e. the extent to which it is useful in discriminating change in parent behaviour following the intervention.

This thesis has 7 chapters. The first chapter reviews the literature on child conduct problems. Main subsections concern definitions, aetiology, prevalence and stability, associated costs and the risk of problem behaviour as a target for prevention. The second chapter briefly reviews research on main determinants of parenting. In the third chapter, main theoretical models of parenting are discussed. A particular focus will be the description of attachment and social learning based theoretical approaches to parent-child interaction at the conceptual, methodological and intervention levels. The fourth chapter focuses on key theoretical and methodological considerations of using direct observation and the description of the main phases involved in the development of the new coding scheme. Chapter 5 describes the methodology used to conduct the study. Chapter 6 presents the main results in two parts. Part A presents the reliability and validity outcomes of the new measure, the testing of the main hypotheses and further analyses focusing on a) mean differences in observed parent and child behaviour according to demographic factors, b) demographic predictors of change, and c) the prediction of change in child behaviour from change in parenting. Part B focuses on an exploratory examination of the key findings for each of the main ethnic groups that constitute the sample of the study. Results are discussed in chapter 7. A summary of the findings will then be provided, followed by the study limitations, recommendations for future research, clinical and policy implications, and the final conclusion.

CHAPTER 1. Background to childhood conduct problems

This section will provide an introductory and brief review on childhood conduct problems. Although the literature is particularly focused on symptomatic manifestations of problem behaviour including oppositional defiant disorder (ODD) and/or conduct disorder (CD), of particular interest to this study are manifestations of externalising behaviour that do not necessarily meet diagnostic criteria for ODD or CD. This is because children targeted for study, were selected from the community rather than from a clinical setting. Because of their elevated risk of developing full-blown conditions, some of the literature on ODD and/or CD is still relevant and/or applicable to the children studied here.

1. 1. Defining conduct problems

Conduct problems in children have often been referred to as externalising behaviour. In factor analytical studies of children's disruptiveness, behaviours that have typically loaded on the externalising factor are aggression, hostility, and non-compliance (Rothbaum & Weisz, 1994). According to their type, severity and duration, these behaviours could be symptomatic and potentially lead to a diagnosis of Oppositional Defiant Disorder (ODD) or Conduct Disorder (CD). Whereas ODD has usually been indicative of serious problematic behaviour in younger children, CD refers to major rule violations and serious antisocial acts characteristic of antisocial personality disorder in older individuals (Goodman & Scott, 1997). Both the Diagnostic and Statistical Manual for Mental Disorders (DSM-IV) and the International Classification of Diseases – version 10 (ICD-10) provide descriptions of the behavioural manifestations of ODD and CD that are somewhat convergent, including a pattern of antisocial behaviour with defiance and aggression as its central features. However, if this behavioural pattern is circumscribed and usually confined to the home it is representative of ODD, whereas pervasive manifestations of antisocial behaviour involving parents, teachers, peers, and the wider community refer to CD (Carr, 1999).

In addition to behavioural difficulties, disruptive children are faced with problems at the cognitive and affective levels, as well as suffering the ill effects of problematic relationships and risk-taking behaviour. Cognitively, these are children whose ability to internalise social rules and norms is limited. In addition, there is ample evidence that

children with severe conduct problems employ a hostile attributional bias when processing social information, i.e. ambiguous social situations are interpreted as threatening and the child will respond to these with aggressive retaliative behaviour. Moreover, mood is predominantly marked by anger and irritability. Relationship difficulties with parents are centred on the child's persistent disobedience. When negative relationships take place with individuals other than the parents, problems revolve around the child's defiant behaviour (e.g. with teachers), aggression and bullying (e.g. with peers) and, in some cases, destruction of property in the community (e.g. vandalism).

1.2. The aetiology of conduct problems

Theories of the development of externalising problems in children can be described as pertaining to three main lines of enquiry: 1) those focusing on heredity or the genetic basis for behaviour, often labelled as "biological theories", 2) those accentuating the primary role of environmental factors in shaping behaviour, and 3) "interactional theories" affirming the interplay between genetic and environmental elements as crucial to the emergence of behavioural responses (Rutter, 2002). A multi-pathway model of the early development of child conduct problems is prevailing in current research (Campbell, 1995; Hinshaw, 2002a; Wootton, Frick, Shelton, & Silverthorn, 1997).

From research on biological or within-child factors, temperament and neuropsychological functioning have been pointed out as two main attributes implicated in the early development of conduct problems.

Although defined in a variety of ways, temperament usually refers to characteristics constitutional in nature such as emotional responsiveness, activity levels, and social adaptability. Children have also been described according to their temperamental style (i.e. easy, slow-to-warm-up, and difficult). "Easy" children display positive mood, are adaptable to change, and have low intensity reactions when approaching new stimuli. "Difficult" children show opposite patterns to the characteristics above, and are likely to show behaviour problems concurrently or to develop these problems later in life (Kazdin, 1996). Studies have also identified maladaptive temperament styles as characterised by inflexibility, lack of empathy, and lack of guilt – these behaviours in turn have been incorporated in the description of "antisocial propensity", a dimension

thought to be implicated in the development of early-onset persistent antisocial behaviour (Lahey, Waldman, & McBurnett, 1999). Evidence suggests that children of antisocial propensity are unable to understand and manage emotions, and to inhibit inappropriate behaviour. These children are also more likely to be desensitised to parental punishment and thus impervious to their parent's attempts at behaviour management (Minde, 1992; Murray & Kochanska, 2002; Wootton et al., 1997).

Research on neuropsychological dysfunction in antisocial children has identified deficits in three main areas: intellectual functioning, verbal ability, and executive control functions (Earls & Mezzacappa, 2002). Overall, studies report a stronger link between lowered intellectual functioning and conduct problems in children suffering from CD and Attention Deficit/Hyperactive Disorder (ADHD) (i.e. co-morbid groups) comparative to those in pure CD and control groups (Hogan, 1999). Rather than a global intellectual deficit, verbal IQ and language ability have been suggested as key cognitive deficits among conduct problem children (e.g. Moffitt, 1993; Hinshaw, 1992). In their longitudinal study of New Zealand children, Moffitt and Lynam (1994) found stronger associations between self-reported delinquency and language-based measures in comparison to non-language measures. Furthermore, severely conduct disordered boys who were also hyperactive presented the greatest deficits in verbal skills and verbal memory, consistently performing less well on tests of verbal IQ from the age of 5. These findings on the link between low verbal ability and conduct problems, particularly in children with co-morbid ADHD symptomatology mirror outcomes from numerous other studies (e.g. Farrington & Hawkins, 1991; Speltz, DeKlyen, Calderon, Greenberg, & Fisher, 1999b; Lahey, Loeber, Hart, Frick, Applegate, Zhang, Green, & Russo, 1995). Deficits in executive functions (i.e. regulation of goal-directed behaviour through abstract reasoning, problem solving, and sustained attention) in conduct problem children have also been documented (Hogan, 1999; Hill, 2002). Difficulties in this domain can be attributable to frontal lobe deficits (e.g. Moffitt & Henry, 1989; Lynam, 1996), and the implication of poor verbal ability has also been suggested. The child's inability to adequately use language thinking through the consequences of his/her actions may greatly reduce his/her capacity for self-control and social problem solving. In the face of these difficulties in reasoning or in asserting themselves verbally, children may attempt to gain control of social exchanges using aggression (Lynam & Henry, 2001). In support of this view are studies reporting an increased tendency in aggressive children to generate fewer verbal solutions and more action-oriented

solutions in response to social dilemmas (e.g. Lochman, Lampron, & Rabiner, 1989), and to show poorer vocabulary for describing their own affective states and recognising those of others (e.g. Speltz et al., 1999b; Cook, Greenberg, & Kusche, 1994). When these difficulties in emotional processing and verbal ability are coupled with a tendency to perceive hostile intent in the neutral actions of others, the likelihood of aggressive responses is greatly increased (Coy, Speltz, DeKlyen, & Jones, 2001; Crick & Dodge, 1994).

In summary, there is ample evidence of the extent to which conduct problem children are affected by a range of difficulties at the socio-cognitive level. However, conduct problem measures and cognitive markers typically share 5% to 15% of the variance, regardless of which type of cognitive variable is studied (Hogan, 1999). A better understanding of the underlying mechanisms can be acquired through (a) using designs enabling the investigation of interactions between socio-cognitive factors and family/contextual variables, and (b) using prospective designs to examine whether changes in antisocial behaviour over time are linked to changes in socio-cognitive functioning within-individuals (Coie & Dodge, 1998; Hill, 2002; Hogan, 1999).

Examples of key environmental influences on child behaviour problems are: parenting practices, schooling, socio-economic status, and marital conflict. The way in which these factors influence child outcome is thought to be both direct and indirect, via their effects on the parent's ability to develop and implement appropriate parenting management strategies when facing the child's difficult behaviour (Belsky, 1984; Meyers, 1999). It is also recognised that the causation process is reciprocal with developing children being affected by the environment but with the latter also being affected by the child's behaviour, thoughts, and emotions (Belsky, 1984; Harvey-Arnold & O'Leary, 1995; Hinshaw, 2002a; Meyers, 1999; Miller-Johnson, Coie, Maumary-Gremaund, & Bierman, 2002).

In the past, children's socialisation studies identified parenting as the major determinant of socialisation, thus minimising the key contributions of other environmental influences as well as of heredity (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000). Efforts to disentangle the contributions of both shared (exposure of all children within the family) and unshared (specific to the individual child) factors in the development of conduct problems have been consistently addressed by current adoption

and twin studies (Deater-Deckard & Plomin, 1999; van der Valk, van-den-Oord, Vethulst, & Boosma, 2001). A common outcome of these studies has been the relatively minor effect of environmental factors (e.g. parenting) in terms of the explained variance in childhood externalising problems (Collins et al., 2000; Deater-Deckard & Plomin, 1999; van der Valk et al., 2001). This research has largely underestimated environmental influences, as it has consistently attributed variance in children's behaviour to genetic relatedness without properly addressing the potentially strong effect that shared environments may have (Maccoby, 2000). In fact, the effects of shared environment (i.e. family structure) have been found to be considerable, and not readily attributable to genetic closeness as these were stronger in families with higher proportion of unrelated members (O'Connor, Dunn, Jenkins, Pickering, & Rasbash, 2001). The experimental study by Sonuga-Barke and colleagues (Sonuga-Barke, Daley, Thompson, Laver-Bradbury, & Weeks, 2001) also confirms the strong impact of environmental factors (i.e. parenting) on child behaviour where there is substantial inheritability. In their study, following a behaviourally based parenting programme there were significant improvements in pre-school ADHD behaviours on both clinical and observational measures, and effects were maintained for 15 weeks after treatment. More recently, Juffer and colleagues (Juffer, Bakermans-Kranenburg, & van Ijzendoorn, 2005) demonstrated the effectiveness of a short-term preventive intervention to promote maternal sensitivity in lowering the rate of disorganised (D) attachment in infants. The authors emphasise the significance of this finding in terms of the biological vulnerabilities associated with the (D) pattern, and the fact that the intervention was not confounded by genetically transmitted risks or protective factors for attachment disorganisation as the sample used consisted of parents with genetically unrelated, adopted children.

The study of interaction processes between genetic predisposition and environmental factors in the explanation of childhood behavioural problems has shed new light on main sources of vulnerability and resilience in children. It is known that even if similar environmental conditions are shared (e.g. living in the same family) some children will go on to develop conduct problems whereas others will not (Belsky Domitrovich, & Crnic, 1997; O'Connor et al., 2001). On the other hand, whereas some children's genetic predisposition may increase their susceptibility to poor environmental conditions, other children's genetic make-up might serve to protect them against the detrimental effects of poor environments (Belsky et al., 1997; Belsky, Hsieh, & Crnic,

1998; Rutter, 2002). Studies of the interaction between parental perceptions of child temperament and environmental factors (e.g. family function and parenting practices) have indicated that the combination of parental perceptions of difficult temperament with other risk factors (e.g. male gender) is more likely to predict later conduct problems only when these risk factors co-occur in face of environmental adversity (Brannigan, Gemmell, Pevalin, & Wade, 2002; Patterson & Sanson, 1999; Prior, 1992; Oberklaid, Sanson, Pedlow & Prior, 1993; Sanson, Oberklaid, Pedlow & Prior, 1991). On the other hand, perceived difficult temperament is a risk factor for later conduct problems in children experiencing environmental adversity, whereas being perceived as temperamentally "easy" serves as a protective factor even when living under the effects of poor environmental conditions (Prior, Smart, Sanson, Pedlow, & Oberklaid, 1992).

Less clear in research to date is the identification of potential interaction effects due to differences in specific parent/child characteristics (e.g. gender and ethnicity) and environmental processes (i.e. differential socialisation practices) (Raley & Bianchi, 2006). A brief review of differential parental socialisation according to child's gender will be discussed here whereas differences in parenting according to ethnicity will be discussed in Part B of chapter 6 (section 6.2. below).

The study of children's gender-differentiated problem behaviour has consistently indicated that boys exhibit higher rates of conduct problems than girls (Goodman & Scott, 1997). For early-onset life course persistent antisocial behaviour, the most robust and systematic evidence obtained from the Dunedin Longitudinal Study has shown a 10:1 sex ratio for this type of disorder (Rutter, Caspi & Moffitt, 2003). Nevertheless, several sources of potential bias hamper research on children's gender-differentiated problem behaviour including a) the almost exclusive focus on males, the focus on behaviours more commonly displayed by boys (i.e. physical aggression), and the persistent use of cross-sectional designs (Silverthon & Frick, 1999; Zoccolillo, 1993). This prevents a clear distinction being made between the developmental pathways in boys vs. girls, the identification of gender interaction effects due to differences at the biological (e.g. physical size, hormonal and neural growth) and socialisation levels, and clarification of causal processes (e.g. whether child gender-differentiated outcomes are the product of differential parental treatment or whether the former elicits different parenting responses) (Raley & Bianchi, 2006; Rutter et al., 2003).

So far, research on differential parenting according to child's gender has produced mixed and/or inconclusive findings. In a well-known meta-analysis by Lytton and Romney (1991), comparing 172 studies where various measurement techniques (e.g. observation, report) were used to assess a wide range of parental behaviours (e.g. joint play, warmth, disciplinary strictness, verbal reasoning), the one area in which parents treated girls differently from boys was in the encouragement of sex-typed behaviours (e.g. dishes for girls and trains for boys in play activities). Although differences in parental treatment in most socialisation areas were non-significant, these were in the expected direction (e.g. more warmth displays and discouragement of aggression for girls). In light of their findings, the authors concluded for the overall lack of evidence of child gender effects in parent's socialisation behaviour. This is in contrast with the findings of a later meta-analysis restricted to observational studies of language by Leaper, Anderson and Sanders (1998). The authors found greater evidence for differential treatment of sons and daughters with mothers using more supportive speech (e.g. expressions of praise, approval, agreement) with girls than with boys. Furthermore, differences in language use were larger for unstructured than for structured activities and in natural settings than in laboratory settings. Adding to this evidence are other observational studies such as the one by Lindsey and Mize (2001a) where differences between mother's and father's behaviour with sons and daughters during varied play contexts have been found.

The overall pattern of findings above is not only mixed but also merits caution. In Leaper et al's (1998) meta-analysis, a larger number of studies assessed mother-child than father-child dyads, much of the research was focused on very young children, and only one domain of parent-child interactive behaviour (i.e. language) was covered. In Lindsey and Mize's (2001a) study, a small (n = 33 dyads) and homogeneous sample (i.e. mostly of White ethnic origin and high SES) was used, with parent-child play activities taking place in contrived, laboratory settings. However, this latter group of studies' main contribution is the suggestion that the overall lack of evidence for child gender effects in parent's socialisation behaviour could potentially be explained by the consistent failure to consider the role of context in shaping gender-differentiated patterns of parent-child interaction.

In summary, although inconclusive the research above indicates that there is minimal evidence to support a strong interaction effect between parenting and child gender. The present study will add to this evidence by investigating the extent to which there is variation in the quality of observed parenting according to child's gender (section 6.1.7.1. below) and whether the latter moderates the effect of the parenting intervention (section 6.1.7.2. below).

1.3. The prevalence of conduct problems

According to epidemiological studies, between 7 and 25% of the population display behaviours consistent with diagnostic criteria for CD or ODD (Webster-Stratton & Hooven, 1998). In a recent British survey, 7.4% of boys aged 5 to 15 and 3.2% of girls were identified as conduct disordered (Meltzer, Gatward, Goodman, & Ford, 2000). However, varying prevalence rates have been reported depending on: criteria used to define problem behaviour, type of assessment and informants, and samples and contexts studied (Pavuluri, Clarkson, & McGee, 1995; Prior et al., 1992). Thus, according to criteria used, prevalence rates for children diagnosed with CD have been reported as ranging from 4 to 10% (Kazdin, 1996), whereas other studies indicate that prevalence is particularly high in deprived inner-city areas (Attride-Stirling, Davis, Day, & Sclare, 2000), and that higher rates of CD are found in boys, who are 3 times as likely as girls to display this disorder (Goodman & Scott, 1997; Scott, 1998). Furthermore, in the UK and Western countries prevalence rates of criminality and violence has markedly increased in recent decades (Collishaw, Maughan, Goodman, & Pickles, 2004).

In community samples, a prevalence rate of approximately 15% to 20% has also been reported for primary school children who were rated by their parents and teachers as exhibiting behaviour problems above checklist cut-off scores (Hofstra et al., 2000).

Many of the studies that have used checklists however, may greatly bias prevalence rates as they do not consider important diagnostic features such as duration of symptoms, the number of situations in which the behaviour occurs or how much of the child's functioning is impaired. These screening procedures might include children whose problems are transient and not symptomatic. In spite of the variability in rates however, it is widely recognised that antisocial behaviour affects a significant proportion of the population. Strong evidence for the high frequency of occurrence of

externalising problems is provided by Hoare and colleagues (Hoare, Norton, Chisholm, & Pany-Jones, 1996), according to whom, children and adolescents exhibiting antisocial behaviour account for nearly half of all referrals to child and adolescent mental health outpatient services.

1.4. The stability of conduct problems

Stability (or persistence) of conduct problems from early childhood to adolescence and adulthood has been estimated to range from 18% to 75%. Higher rates have been reported in: clinic vs. non-clinical samples, boys vs. girls, older vs. younger children, studies using strict criteria (i.e. clinical diagnosis) to define problem behaviour when first assessed, as well as using stricter guidelines to define stability (i.e. significant problem behaviour in more than one follow-up) (Campbell, 1995; Hofstra et al., 2000; Kingston & Prior, 1995). Studies indicating the high stability of externalising problems are, however, profuse. After reviewing 16 longitudinal studies on aggression in children and adolescents, Olweus (1979) found an average stability correlation of .63 between measures of aggression obtained in different time points (intervals ranging from one to 18 years). Other findings suggest that chronic offender adolescents can be identified by grade 3 or 4 as in the follow-up study by West (1969) where 49% of boys identified by teachers in grade 3 as troublesome were later identified as adolescent delinquents (Patterson et al., 1992). Recent studies confirm these earlier findings and give support to the improbability of conduct problems remitting in the course of development. As shown by Fergusson and colleagues (Fergusson, Lynskey, & Horwood, 1996) when studying a cohort of 1265 New Zealand children, those identified as disruptive by parents and teachers at 7 to 9 years of age, were over 16 times more likely to have CD in adolescence.

These findings point to an "early onset" of CD in children. Patterson and colleagues (Patterson, DeBaryshe, & Ramsey, 1989) hypothesised this "early onset" developmental pathway to begin with the emergence of ODD in pre-schoolers and to progress to aggressive or non-aggressive (e.g. lying) symptoms of CD in middle childhood, and to more serious symptomatology in adolescence. This "early-onset" or "life-time persistent" type of antisocial behaviour is differentiated from the "late-onset" or "adolescent-limited" type where antisocial behaviour generally occurs through involvement with deviant peers and does not persist into adulthood (Moffit, 1990).

There is a better prognosis for "late starters" than for "early starters". An explanation might be that, whereas co-morbid psychopathology (such as hyperactivity, emotional disorders, language and neuropsychological deficits) is usually associated with the "early-onset" pattern, in the "late-onset" such an association is (usually) not present, and antisocial behaviour is more environmentally determined (Scott et al., 2001a).

Stability research has also shown that a powerful predictor of future antisocial behaviour is the amount and severity of problematic behaviour displayed earlier in life. However, other factors such as parenting practices (e.g. harsh and inconsistent discipline), parental perceptions of child temperament, and family adversity may also strongly affect the extent to which problematic child behaviour will persist throughout life (Campbell & Ewing, 1990; Feehan, McGee, Williams, & Nada-Raja, 1995; McGee, Partridge, Williams, & Silva, 1991; Sanson et al., 1991).

While it seems clear that early preventative measures should be taken to target the emergence of problem behaviour early in life, it should be noted however, and as pointed out by Bennett and colleagues (Bennett, Lipman, Brown, Racine, Boyle, & Offord, 1999) that for many children this problem will remit. This calls the attention of prevention programme providers not to run the risk of including children who, left untreated, would not go on to develop further conduct problems.

1.5. The individual and societal cost of conduct problems

Non-financial costs associated with problem behaviour in children are extremely high. Affected individuals suffer from low self-esteem and inability to establish satisfactory relationships with the peer group (Harter, Whitesell & Junkin, 1999; Dodge, 2000), evoke critical and hostile parenting at home (Pope & Bierman, 1999), disrupt patterns of family cohesion (Carr, 1999), and under-perform at school (Fergusson, Horwood, & Ridder, 2005). A wide range of other complications associated with long-term persistent externalising behaviour also includes antisocial personality disorder and adulthood criminality, drug and alcohol abuse, poor physical and mental health, unemployment, and living under conditions of poverty (Rutter, Giller, & Hagell, 1998; Simonoff, Elander, Holmshaw, Pickles, Murray, & Rutter, 2004). Several agencies often become involved to face these difficulties, from educational, health, criminal justice to social welfare systems (Scott, 1998). The public costs associated are substantial. As illustrated

by a recent population-based follow-up study of 10 year olds, by age 28 years, those with CD in childhood had gone on to cost society 10 times as much as controls (i.e. mean individual total costs were £70,019 for the conduct disorder group compared to £7,423 for the no-problem group). This difference remained after allowing for being male, a poor reader, and raised in an economically-deprived family. Of the several agencies that made substantial contributions, the highest costs were borne by criminal justice services. Also, the rate of unemployment and receipt of state benefits was high (Scott, Knapp, Henderson, & Maughan, 2001b).

1.6. Children at risk as subjects for prevention

As indicated above, a series of factors increase the child's risk of developing conduct problems early in life. Of most relevance to the present study are the potential effects of living under conditions of poverty. The increased stressful conditions often associated with living in poor neighbourhoods are a barrier for children to be brought up experiencing a sensitive, warm, and an encouraging relationship with their parents (Barnes, Belsky, Broomfield, Dave, Frost, & Melhuish, 2005). Compared to children living in more favourable conditions, poor children do less well on a number of measures of attainment and quality of life (Fergusson, Swain-Campbell, & Horwood, 2004).

Main reasons to offer a preventive parenting programme to families of children at risk of antisocial behaviour and later social exclusion, are a) children at higher risk are relatively easy to identify, b) because effective (evidenced-based) interventions are available, early detection could prevent further deterioration, c) preventing development of full-blown condition means that individual and societal costs are extensively reduced, and d) later in life, when the condition is full-blown, interventions available are less effective. On all these four criteria, numerous benefits are expected from offering a preventive parenting programme early on in the child's life (Scott et al., 2005a).

CHAPTER 2. Research on parenting – PART I: Main determinants

2.1. Parenting: deterministic vs. holistic approach

Definitions of parenting have undergone several reformulations. In the past, parenting was understood as a unidirectional process as parents were considered the main source of the child's acquisitions, able to shape the child's environment, whilst the latter was regarded as completely passive in this process, not possessing any control over what he/she was exposed to, unable to appropriately select and assimilate his/her learning experiences. This theoretical approach dominated socialisation research from the 1930's to the 1950's (Shaffer, 1993; Eisenberg & Mussen, 1997; Maccoby, 1980; Holden, 1983). In contemporary research, this deterministic view of parenting was substituted by a more holistic approach in which parenting is understood as a series of reciprocal interchanges between parent and child, with behaviour of one member of the dyad affecting the other and vice-versa (Chamberlain & Patterson, 1995; Dowdney et al., 1984).

2.2. Determinants of parenting

Consistent with the holistic view of parenting is the notion that this is multiply determined (Belsky, 1984). The study of parenting demands a consideration of the extent to which a series of within-parent and environmental factors potentially affect the parent's ability to adequately parent their children and in turn affect the child's experiences of being parented, as well as his/her behaviour towards socialisation agents.

The literature on the individual and environmental factors that affect the quality of parenting is extensive (Maccoby, 1980). What follows is a brief description of those factors most commonly cited as affecting parents living under conditions of increased stress due to economic hardship. In at risk populations like the one participating in this study, risk factors are more likely to be present and to cumulatively exert their impact on parenting quality (Garmezy & Rutter, 1983). Another point briefly discussed here will refer to the extent to which the difficulties associated with multi-problem families have been found to predict worse treatment outcomes.

One within-parent factor consistently studied in terms of its effects on parenting quality and child behaviour is parental depression. Depressed parents often suffer from feelings of hopelessness, view their parenting abilities as inadequate, negatively experience the demands of parenthood, reject their children and/or treat them with hostility (Downey & Coyne, 1990). Studies have identified the parenting behaviour displayed by depressed parents as lacking in involvement and responsiveness (Johnston, Murray, Hinshaw, Pelham-Jr, & Hoza, 2002; Rubin, Stewart, & Chen, 1995), issuing vague commands impossible for children to comply with and insensitive to the child's needs (Forehand, Lautenschlager, Faust, & Graziano, 1986).

Furthermore, observational studies have confirmed that the effect of maternal depression is partially mediated by the quality of mother-child interactions. In their study, Harnish and colleagues (Harnish, Dodge, & Valente, 1995) looked at maternal levels of enjoyment, sensitivity, responsiveness, clarity of commands and involvement in an interaction task and as measured by 24 5-point scales (i.e. measures of direct observation). In a summary score indicative of maternal warmth, it was found that nearly a fifth of the effect of maternal depression was mediated by the quality of the mother-child interaction.

Of the environmental determinants of parenting, most commonly cited are socio-economic disadvantage, marital conflict, and lack of social support (Gaudin, Polansky, Kilpatrick, & Shilton, 1993; Rubin et al., 1995; Woodworth, Belsky, & Crnic, 1996).

Measures of socio-economic disadvantage such as poverty, overcrowding, unemployment, poor housing conditions, and low levels of parental education have been found to increase the risk of child conduct problems and delinquency through their effect on parenting behaviour (Hawkins, Catalano, & Miller, 1992). Examples of findings suggest that low-income parents are more at risk than middle-income parents for high levels of psychological stress (Gecas, 1979), power-assertive (i.e. coercive) discipline strategies (Sampson & Laub, 1994) and a tendency to rationalise as legitimate inappropriate parenting decisions (Hoffman, 1984).

Research has also indicated that parenting behaviours seem to play a mediating role between socio-economic status (SES) and conduct problems, i.e. socio-economic disadvantage influences the ability of parents to respond appropriately to children, which in turn elicits greater problematic child behaviour (McLoyd, 1990). In an effort to disentangle this mediating mechanism, Capaldi and Patterson (1994) studied a number of factors as predictors of conduct problems, testing for direct and indirect effects. Major findings indicated that direct effects of low SES were erased when parenting variables were taken into account. A "chain reaction" or "spill-over" effect was therefore proposed in which factors such as unemployment increases family stress, which in turn decreases the level of parenting involvement and monitoring and increases the amount of coercive parenting, all of which ultimately promote child's difficult behaviour. These findings suggest that the effects of socio-economic disadvantage on conduct problems are primarily indirect as the former usually co-varies with other variables that adversely affect family functioning.

Marital conflict has also been found to affect parenting (Kazdin, 1987). Parents faced with marital difficulties and distress have been shown to display cold, unresponsive, and angry styles of interaction as well as inconsistent or loose disciplinary techniques (Grych & Fincham, 1990). Hostility toward children may be a result of perceiving them as causes of the conflict. Children can also be coerced into alliances against the other parent (Brook, Zheng, Whiteman, & Brook, 2001). In terms of the effect of marital discord on childhood behaviour problems this has been found to be mediated by its impact on the parent-child relationship as demonstrated in a study of 40 non-clinical families by Kitzmann (2000). The author found that negativity observed during marital discussions was negatively correlated with mothers' and fathers' support/engagement, warmth and democratic parenting and positively correlated with family negativity during subsequent interactions with their child.

Social isolation has also been identified as potentially compromising effective parenting (Patterson, 1983). A pattern of poorly developed social support networks, with little positive contact with the extended family and the wider community has often been referred to as "insularity" (Carr, 1999).

Observational studies have reported that "insular" mothers use more aversive consequences with their children than "non-insular" mothers (Webster-Stratton, 1985a, 1985b). However, on days when mothers reported a higher number of contacts with friends, maternal aversive behaviour and oppositional child behaviour was consistently lower than on days when the number of contacts was low (Wahler, 1980). These findings suggest the crucial role of social support for parents and their children as it provides a sense of personal well-being and promotes a forum for receiving advice on how to manage problems. The absence of social support leaves families with fewer personal resources for coping with problems and thus promoting the maintenance of problematic interaction patterns (Carr, 1999).

Lack of social support is also a related outcome of being a single parent. In single-parent families, all the advantages that usually come from sharing the responsibilities of child-rearing with a partner, extended family or community (e.g. social support, mutual monitoring, fiscal benefits) are often denied. Raising a child in these conditions increases the likelihood for later behavioural problems. As shown by Dodge and colleagues (Dodge, Pettit, & Bates, 1994) children from single-parent families show significantly higher levels of behaviour problems than those from two-parent families, with family status making a unique contribution, even when SES was controlled for. In addition, single parents differed from two-parent families in their parenting practices by using harsher discipline and giving less social support and cognitive stimulation to their children.

Overall, findings in this area indicate the crucial role of social support in lessening the detrimental impact of environmental stressors on parenting behaviour given the benefits it provides at the emotional, informational, and financial levels (Koeske & Koeske, 1990). Through social support feelings of stress, isolation, and helplessness are prevented, whereas feelings of competence are enhanced and coping abilities strengthened (McLoyd, 1990; Crnic & Greenberg, 1990).

2.3. Determinants of parenting as predictors of treatment outcome

As mentioned above, parenting practices are affected by a series of factors. These correspond to individual, family, and/or contextual characteristics known to moderate treatment effects (Webster-Stratton & Hooven, 1998). Examples of variables predictive

of poor treatment outcomes are parental depression, marital conflict, lone parenthood, insularity and low SES (Scott, 2002; Kazdin, 2005). In a recent meta-analysis of 31 studies, where a total of 15 predictors of treatment outcome were studied ranging from family demographics (e.g. education), child variables (e.g. severity of problems at pre-treatment), participation (i.e. attendance), to parent factors (e.g. depressive symptoms), only low family income resulted in a large standardised effect size (Reyno & McGrath, 2006). Similarly, following their meta-analytical review of 63 studies comparing the effectiveness of behavioural vs. non-behavioural programmes and the extent to which effectiveness was moderated by participant and/or treatment factors, Lundhal et al (2006) reported that financial disadvantage was the most salient moderator of treatment outcome. That is, in contrast with their non-disadvantaged counterparts, economically disadvantaged families benefited significantly less from parent training.

However, simply knowing that a series of factors influence treatment outcome is not sufficient to guide intervention decisions (Reyno & McGrath, 2006). Other crucial questions should be posed and further examined. In the particular case of disadvantaged families (as the ones in this study), it is important to investigate which specific factors are associated with treatment success. Specific treatment characteristics such as the dosage of the intervention (i.e. number of sessions), although likely to influence outcome, have nevertheless been poorly studied (Kazdin, 2005). Also neglected by research is the study of variables present at baseline (e.g. initial levels of critical/harsh parenting) that may alter treatment response (Reid et al., 2004).

Further examination of the key factors that make interventions work especially in those families most at risk is pressing. At present, information on specific aspects likely to increase effectiveness including the predictive role of baseline parenting on treatment outcome and the amount of treatment needed to optimise change is limited (Beauchaine, Webster-Stratton, & Reid, 2005; Kazdin, 2005).

In the present study, examination of the extent to which demographic factors predicted treatment outcome will be conducted. The differential effect of the intervention according to number of sessions attended will also be considered. Besides moderator effects, examination of whether the intervention's child primary outcome (i.e. reduction in problem behaviour) is explained or mediated by its potential effect on enhancing

positive and/or attachment-based parenting (e.g. increased sensitivity) will also be conducted.

A note should be made to clarify the use of the terms 'moderator' and 'mediator' in this study. Given that this investigation uses an intervention design, the definition of moderators and mediators of intervention effects corresponds to that offered by Hinshaw (2002b). According to this conceptualisation, a 'moderator' corresponds to a baseline variable, occurring prior to randomisation (thus uncorrelated with treatment assignment), associated with differential treatment response across treatment groups and/or subgroups. Examples of potential moderator variables include gender, SES, co-morbidity, and ethnicity. In contrast, a 'mediator' refers to a variable occurring after randomisation (i.e. correlated with treatment assignment), exerting its effects during the period of active intervention. In treatment or prevention research a typical example of mediator variables include participant's response to a particular domain (e.g. whether intervention is successful in improving parenting), which is then examined in terms of its association with the primary outcome (e.g. reduction of child problem behaviour) (Hinshaw, 2002b; Beauchaine et al., 2005).

CHAPTER 3. Research on parenting - PART II: Main theoretical approaches

3.1. Parenting: unconnected theoretical perspectives

To date, several theories of parenting have been proposed and have received empirical support. Each theory has its focus on specific parental domains (e.g. authoritative vs. authoritarian parenting styles), particular child outcomes (e.g. insecure attachment) and hypothesised mechanisms to explain results (e.g. the role of harsh discipline in the development of antisocial behaviour). Notwithstanding their contribution to our knowledge of the potential processes involved, these theories are still disconnected from one another, presenting divergent views on how parent-child relationships are described, measured, and understood (O'Connor, 2002). This lack of theoretical and methodological integration is also evident in the extent to which intervention research has predominantly valued specific parenting models over others in preventing the early development of child conduct problems (Greenberg et al., 1993).

3.1.1. Contrasting definition(s): positive/warm vs. negative/harsh parenting?

Contributing to the lack of integration of parenting theories are definitions of parenting as negative vs. positive, a common feature in research so far. This division is not only non-integrative but is also artificial given the wide cultural variations in parenting practices (Stevenson-Hinde, 1998). Negative parenting is traditionally understood as a range of parental behaviours shown to be implicated in the development of poor outcomes in children, in particular the early onset of child antisocial behaviour (Kazdin, 1987; Scott, 1998, Webster-Stratton & Hooven, 1998). Lack of parental involvement, poor supervision, harsh/coercive discipline, hostility and lack of warmth are all examples of negative parenting (Rothbaum & Weisz, 1994; Patterson, 1982; Webster-Stratton & Herbert, 1996). In contrast, positive parenting refers to parental behaviours found to promote the child's autonomy, cooperativeness, pro-social behaviour, communication, attachment security, self-competency, affect-regulation, and problem solving skills (Maccoby, 1980; Martinez & Forgatch, 2001; Maccoby & Martin, 1983). Characterising positive parenting are dimensions of approval, guidance, involvement, sensitivity, synchrony, consistency and affection (Rothbaum & Weisz, 1994; Gardner, 1987; Dowdney et al., 1984; Webster-Stratton & Hancock, 1998).

When studied individually, all the above elements of positive vs. negative parenting have been found to associate with child externalising behaviour in the expected direction. However, the predictive strength of these findings is stronger when operationalising these variables as constituting a pattern (i.e. combined into clusters) (Rothbaum & Weisz, 1994). Acceptance/affection and control constitute two crucial clusters or dimensions of parenting that research has identified, consistently assessed and associated with differential outcomes in children's well being (O'Connor, 2002; Baumrind, 1971; Maccoby & Martin, 1983). These two dimensions refer to central notions in differing lines of enquiry. Whereas parental control has been the main focus of attention by social learning theorists such as Patterson (1982), parental affection has proved crucial in the formulations of Attachment Theory (Bowlby, 1997; Ainsworth, Blehar, Waters, & Wall, 1978). Although the social learning and attachment theoretical perspectives have evolved separately, providing contrasting views on parent-child relationships, potential points of convergence have also been suggested (Greenberg & Speltz, 1988; Speltz, DeKlyen, Greenberg, & Dryden, 1995). However, these convergences have been masked due to a prevailing lack of conceptual and methodological integration of both theories in research to date.

Addressing this lack of integration between attachment and social learning models of parent-child interaction at the conceptual, methodological and intervention levels is of particular importance to this study. Articulation of both theories may prove valuable in clarifying the potential interplay between attachment-related and social learning based parenting practices and their cumulative and/or differential effect on child's behaviour. Considering how competing theories might share similarities could lead to more powerful predictions on how best to intervene to promote the child's positive social, behavioural, and emotional well being.

In the following sections, a review of attachment and social learning theoretical models of parent-child interaction will be conducted. Key elements indicative of the extent to which both approaches still lack integration at the conceptual, methodological, and intervention levels will be addressed. Conceptual considerations will include a description of the main theoretical predictions, the parenting domains that have received most attention from each approach and from other models of parent-child interaction, and how these domains have been studied and applied in intervention research. Methodological considerations will refer to the main approaches adopted by each theory

for the measurement of parent and/or child outcomes. Finally, a discussion of the main approaches to intervention adopted by each theoretical model will be conducted. Supporting evidence provided by both theories on correlational/causal links between parent and child outcomes and conduct problems in particular, will also be presented. Suggestions for the testing of convergences/divergences between both perspectives will then be provided. Finally, key aims and research questions of the study will be presented.

3.2. Attachment Theory

3.2.1. Main theoretical predictions and key conceptual considerations

Attachment Theory stresses how parental sensitivity, emotional attunement, and patterns of reciprocity provide the child with opportunities to form a secure relationship with his/her caregiver early in life (Ainsworth et al., 1978; Bowlby, 1997; Cassidy & Shaver, 1999; Isabella & Belsky, 1991). Consistent, prompt and adequate sensitive responsiveness to the child's needs promotes security through contributing to the child's developing of an internal representation of the caregiver as emotionally available and sensitive to his/her needs (Cassidy & Berlin, 1994). In cases where parental care is chaotic, inconsistent, neglectful or rejecting, or when the caregiver behaves in frightening or frightened[1] ways toward the child, insecure (i.e. avoidant or ambivalent) and/or disorganised attachments are more likely to evolve (van Ijzendoorn, Goldberg, Kronenberg, & Frenkel, 1992; Sroufe, Duggal, Weinfield, & Carlson, 2000; Cicchetti, Toth, & Maughan, 2000). Whereas attachment security promotes adaptive social, emotional, and behavioural outcomes, insecurity and/or disorganisation puts the child at a greater risk of later difficulties including problem behaviour (Goldberg, 2002; Crittenden, & Claussen, 2000; Greenberg, 1999).

[1]Physical abuse is an example of frightening behaviour. In contrast, "role-reversal" or frightened behaviour indicates that the child has become the parent's main source of nurturance, providing him/her with comfort when feeling distressed.

3.2.1.1. The attachment relationship: from concepts to behaviours

According to the attachment model, early patterns of consistent sensitive care are described as serving a main ethological function: protection from danger (Goldberg, Grusec, & Jenkins, 1999a; 1999b). In other words, the protective function of predictable and prompt sensitive responsiveness is to assuage distress in the child. Also inherent to the theory is the process through which exposure to initial models of responsiveness, sensitivity, and reciprocity provide the child with an initial context to learn about themselves, others, and relationships. This "internal working model" (IWM) of relationships forms the basis for how individuals will relate to and behave with other people in the future (Bowlby, 1997; 1973; 1980). In light of this, sensitivity seems to also serve key learning functions. That is, provision of sensitive care reinforces the child's learning of himself as worthy of love and attention, of his/her parents as emotionally comforting and available, and of relationships as predictable and safe (Hay & Vespo, 1988). These are defining features of a secure IWM of attachment relationships. In contrast, underlying the emergence of insecure/disorganised attachment patterns is the development of IWM of caregivers as consistently rejecting, ignoring, and/or hostile (Cassidy & Shaver, 1999; van Ijzendoorn et al. 1992).

The suggestion that learning processes are inherent to the development of attachments is not a new one. By satisfying the infant's physiological needs such as hunger, in social learning terms mothers have been described as positive reinforcers (Dollard & Miller, 1950). Maternal sensitive behaviour is also reinforced through cessation of distressing signals (e.g. crying) or onset of positive stimuli (e.g. smiling). In turn, continuous exposure to signs of infant well being, serve to promote repetition of specific nurturing behaviours (Gerwitz, 1961).

Other early learning experiences go beyond attending to the infant's biological needs and incorporate processes where warmth displays are modelled (e.g. the mother shows the child affectionate behaviour), efforts at autonomous behaviour are facilitated (e.g. assists and encourages the child's actions), and direct instruction to reciprocate behaviour is provided (e.g. guides the child to share attention, teaches him/her to cuddle and kiss his/her mother back) (Hay & Vespo, 1988; Herbert, 1998).

In short, although modelling and reinforcement processes have been central in the formulations of Social Learning Theory, they have also been used to explain the establishment of secure attachments (i.e. modelling and/or reinforcement of sensitive and/or nurturing behaviours) (Durkin, 1995).

Whereas there has been a clear and consistent formulation of the key observable behavioural indicators of those aspects of the parent-child relationship that promote security (e.g. sensitivity) early in life (i.e. infancy/toddlerhood), congruent views on what constitutes attachment-promoting sensitive behaviour later in life is still lacking (Beckwith, Rozga, & Sigman, 2002; Thompson & Raikes, 2003). This is particularly marked in middle childhood (O'Connor, 2002; Kerns, Tomich, Aspelmeier, & Contreras, 2000). In other words, it remains mostly unknown what are the specific behavioural manifestations of attachment-promoting behaviours in school-aged children and/or outside contexts of distress (Greenberg & Speltz, 1988; Speltz, 1990; Sutton, 2001; Thompson & Raikes, 2003; Herbert, 1991).

When targeting school-aged children (as in the present study), the definition/operationalisation of attachment-promoting behaviours may be different from the traditional foci used in assessing infants. This is because in later stages of development attachment becomes more multifaceted, with definitions of sensitivity and responsiveness having to necessarily be broadened to accommodate a new set of changes in the maturing child (Thompson & Rikes, 2003). In other words, behavioural indicators of sensitive responding go far beyond the ability to respond to distressing signals and instead have to take into account the child's increased capacity for emotional understanding, communication of his/her needs and wishes, and joint planning (Greenberg & Speltz, 1988). Equally important is the consideration that in older children, the sensitivity construct has to incorporate responses to distressing signals not necessarily caused by parental separation. Identification of sensitive behaviour in contexts that do not involve separation and reunion sequences is therefore needed.

In summary, there is pressing need to identify specific observable post-infancy behavioural indicators of sensitivity in school-aged parent-child interactions (Thompson & Raikes, 2003; O'Connor, 2002). This could be greatly facilitated by increasing efforts at operationalisation and refinement of concepts. In this study, operationalisation of

attachment-derived concepts of Sensitive Responding, Positive Affect, and Mutuality was conducted. However, rather than attempting to measure each one of these dimensions in a traditional sense (i.e. via separation-reunion procedures), the key aim was to identify and operationalise school-age behavioural indicators of these attachment-promoting behaviours observable in the context of everyday tasks at home (e.g. play). That is, at this stage of development we aimed at conceptualising attachment as a feature of parent-child relationships naturally occurring on a daily basis and in contexts other than highly stress inducing situations where the need for a secure base/haven of safety is uniquely linked to feelings of loss following parental separation. Observation of school-aged children and their parents in the context of play tasks at home provides an opportunity to identify key parental behaviours that meet their child's relational needs at an age where feelings of security rely much less on physical proximity. Instead, promotion of security in older children is more closely linked to the extent to which parents provide psychological or instrumental assistance when the child is upset, cooperate with the child's activities in an autonomy-granting fashion, share affection, and maintain open channels of communication (Thompson & Rikes, 2003; Greenberg & Speltz, 1988). This conceptualisation is therefore congruent with the notion that assessment of attachment in older children can be conducted in the context of daily family activities in the home. In light of this, the present study aimed at developing observational measurement procedures for assessment of three main school-age attachment-promoting behaviours in home everyday activities – Sensitive Responding, Positive Affect and Mutuality. Description of operationalisations and measurement strategies proposed will be further discussed in chapters 4 and 5 below.

3.2.1.2. Sensitivity: broadening the concept

In Attachment Theory, the concept of parental sensitivity defines those aspects of responsive parental care that promote security in the child (Beckwith et al., 2002; Goldberg, 2002). This traditional view incorporates three main indices of sensitive responding: a) responsiveness to child's distressing signals, b) attentiveness and accurate perception of child's needs, and c) the appropriateness, consistency, and contingency in which responses should be delivered (Ainsworth et al., 1978; Belsky, 1999). This operationalisation has been predominant in attachment research and particularly focused on early infancy (Cassidy & Shaver, 1999).

Socialisation researchers have also used the sensitivity construct for the study of parent-child interaction (Maccoby & Martin, 1983). Within this line of research the conceptualisation of sensitivity has been broadened as target samples predominantly refer to pre-school years or older and contexts studied contrast traditional separation-reunion procedures used by attachment researchers. Sensitivity is defined as a multi-criteria construct incorporating positive attention, affectionate behaviour, expressions of positive affect, and praise (Dowdney, 1987; Dunn, Bretherton, & Munn, 1987; Feise, 1990). Reciprocity, turn-taking, scaffolding, warmth, reasoning, and explanation have also been identified as crucial aspects of responsive parenting (Stein, Woolley, Cooper, & Fairburn, 1993; Wahler, 1995; Mills & Puckering, 1985; Bruner, 1984). Expressions of warmth are made through displays of verbal and physical affection, approval, support, and positive closeness between parent and child (Dowdney, Skuse, Rutter, Quinton, & Mrazek, 1985; Hemphill & Sanson, 2001). Reasoning and explanation provide a sense of openness as rules of behaviour and its consequences are clearly specified rather than ambiguously or arbitrarily imposed (Gardner, Sonuga-Barke, & Sayal, 1999).

Only limited attention has been directed toward sensitivity in evidence-based behavioural treatments for families of children with conduct problems (Forehand & McMahon, 1981; Patterson, 1986; Webster-Stratton & Herbert, 1996). This applies even to those parenting interventions that have as a key component providing parents and children with opportunities to be involved in attachment-promoting interactions such as child-directed play, where parents are trained to follow the child's lead, be attentive and encouraging of the child's actions, and to describe and praise their achievements (Webster-Stratton & Hancock, 1998; Webster-Stratton & Hooven, 1998; Brinkmeyer & Eyberg, 2003). Although training in 'responsive' parenting is provided, in the context of this interventive and/or preventive work, an operationalisation of positive parenting is often reduced to observed positive and consistent disciplinary strategies (e.g. time-out, clear commands), positive verbal behaviour (e.g. praise, descriptive commenting and acknowledgements), and non-verbal manifestations of positive affect (e.g. smiling, enthusiasm, and enjoyment). Although praising and positive affect may be understood as some key facets of the sensitivity construct, they provide limited information on the specific dimensions that form part of the 'original' attachment-derived sensitivity concept (e.g. emotional attunement and availability, responsiveness to distressing signals) (Webster-Stratton, 1994a; Webster-Stratton, Reid,

& Hammond, 2001; Reid, Webster-Stratton, & Beauchaine, 2001; Hembree-Kigin & McNeil, 1995).

Also, in the vast majority of trials conducted elements of positive parenting stemming from different theoretical conceptualisations (e.g. discipline vs. positive affect) are treated as independent variables so that by the end of the intervention it is not known which specific dimension was more successful in mediating changes in parenting quality and/or child behaviour (Scott, 2002; Martinez & Forgatch, 2001).

In summary, most of the research discussed above indicates that both Attachment Theory and the parent-child interaction socialisation approaches have provided a wealth of information on the operationalisation of the complex sensitivity construct. However, both perspectives present limitations. In attachment research, the sensitivity construct focuses on the parental ability to perceive and accurately interpret the infant's signals and communications and to respond to these in an adequate and prompt manner (Ainsworth et al., 1978; Belsky, 1999; Solomon & George, 1999). By conceptualising sensitivity in terms of clarity of perception and prompt responsiveness vis-à-vis the child's signals, other key aspects of sensitive care (e.g. emotional attunement and provision of structure) are not emphasised (Biringen, 2000; Beckwith et al., 2002). Furthermore, the exclusive focus on sensitive responding prevents an examination of the extent to which other crucial aspects of parenting such as management/control strategies may contribute to the positive emotional bond between parent and child (Kerns et al., 2000; De Wolff & van Ijzendoorn, 1997).

In socialisation studies, making sensitivity a broader category incorporating a wide range of behaviours (e.g. displays of positive affect) and/or interaction styles (e.g. reciprocity/turn-taking) may result in lack of specificity (Goldberg et al., 1999a; 1999b). Also, although this research is not exclusively focused on sensitivity and considers the contribution of other parenting dimensions to child outcome such as disciplinary practices, it treats these variables as independent from one another conceptually and methodologically (O'Connor, 2002). In other words, the consideration that sensitive and disciplinary parenting may correspond to sub-domains of a larger domain (i.e. they may overlap and therefore play a similar role in the extent to which they predict child outcome) is not clearly examined (Greenberg et al., 1993).

Intervention approaches to treatment and/or prevention of child conduct problems have also largely neglected the clear and consistent operationalisation of the sensitivity construct as well as incorporating this dimension as a main target for change. Although some of these approaches incorporate elements of 'responsive' parenting as part of their training content, their view of effective parenting is prevailingly a behavioural/social learning based one that has positive and consistent discipline as its central feature. Therefore, primary parenting outcomes refer mostly to changes in disciplinary strategies rather than in more dyadic and/or relational aspects of parent-child relationship quality. When assessing specific dimensions of positive parenting (e.g. praises, positive affect) along with effective disciplinary behaviours, the vast majority of these studies do not consider the potential correspondence between these parenting styles, making it unclear what the main active ingredient was that led to the effectiveness of the intervention.

In light of the considerations above, it was crucial to this investigation to provide an operational definition of sensitivity that (a) was consistent with core conceptualisations of Attachment Theory (see above), (b) integrated varied manifestations of responsive school-age appropriate behaviours and (c) that could nevertheless be conceptually differentiated from other broad categories of affect and reciprocity/mutuality. Another key aim of this study was to examine the extent of conceptual overlap between attachment-related sensitivity and social learning based variables (i.e. disciplinary parenting) as assessed in the context of a preventive intervention for families of children at risk of problem behaviour due to social exclusion.

3.2.1.3. The role of affect

Affective communication in the parent-child relationship plays a major role in the early development of attachments. Affective behavioural indicators such as smiles, cries of distress, clinging, and visual tracking serve as attachment signals to keep a caregiver in close proximity and to alert him/her that the child is experiencing distress (Magai, 1999). In turn, parents who can accurately decode and encode affective cues are more likely to sensitively respond to their child's signals. By eliciting sensitive caregiving through expressions of distress, the child's capacity to regulate his/her affective experience is promoted. In other words, the secure child is not denied the experience of

negative affect, whereas the insecure child represses, falsifies[2], or intensifies expressions of anxiety or anger to minimise anticipation of parental insensitivity (Cassidy & Kobak, 1988).

In socialisation studies, the study of affect in the context of parent-child interactions has also been emphasised. However, theoretical differentiation between affect and responsivity has been difficult to achieve. A frequent outcome is having a definition of responsivity that incorporates both positive and negative affect (Dowdney, 1987; Clarke-Stewart, 1973; Martin, 1981). Dowdney (1987) suggests that parental affect refers to "expressed emotion as shown by bodily and facial movement, the tone of voice, as well as the content of what is said" and adds that "such information is likely to influence both the attitudes and behaviour of the observer, whether that observer be adult or child" (pg. 88). This formulation suggests that affect can be understood as a specific feature of parental mood and that differing mood states or expression of affect will be likely to have an effect at a behavioural level, including how sensitively the parent would respond (or not) to the child's needs/signals. A clear distinction between affect and sensitivity can therefore be achieved.

Few efforts have been conducted so far to integrate affective/emotional concepts in intervention approaches for the treatment and/or prevention of problem behaviour and psychopathology (Izard, 2002). Few exceptions refer to interventions that use principles of positive emotion induction and utilisation such as (1) programmes aiming to prevent attachment insecurity by promoting increased emotional availability and sensitivity to the infant's needs (Cooper & Murray, 1997; van Ijzendoorn, Juffer, & Duyvesteyn, 1995), and (2) programmes that aim at facilitating controlled emotion expression (e.g. calming down before verbally express negative emotions), help children to recognise events that may trigger/elicit conflicting emotions, and to understand how these complex emotional experiences may affect their thoughts and behaviour (Greenberg, Kusche, Cook, & Quamma, 1995; Greenberg, Domitrovich, & Bumbarger, 2001). Whereas the first approach refers to work that has been conducted within a specific age-range (i.e. infancy) and theoretical framework (i.e. Attachment Theory), the second approach targets emotion regulation and recognition only in one member of the dyad (i.e. the child) and is mostly focused on one particular setting (i.e. school).

[2] I.e. Masking of true feelings

Consequently, in preventive interventions that aim at improving parenting quality and reduce behavioural problems in early school-aged children, change in individual affect/emotion components of parent and child behaviour has not been prioritised (Izard, 2002).

As suggested above, both the attachment and the socialisation approaches present limitations regarding the study of affect in parent-child interaction. In attachment research, the role of affect is confined to the extent to which parental sensitivity promotes affect-regulation in the child. This formulation does not take into account the role of appropriate affective expression in the parent (apart from sensitivity) in promoting secure attachments (Biringen, 2000). Furthermore, whereas studies have continuously focused on the connections between negative affect (in the child) and disturbed patterns of attachment (Diamond & Doane, 1994), little attention has been paid to the study of positive affect in both parent and child (Dix, 1991; Kochanska, Forman, & Coy, 1999). Few exceptions to this refer to research investigating positive affect in parent and child as part of a more encompassing construct such as dyadic mutuality (i.e. dimensions of shared positive affect, co-responsiveness and cooperation) and its association with child behaviour problems (e.g. Deater-Deckard & Petrill, 2004), and research focusing on the quality of parent-child interaction during joint activities and the extent to which this is predictive of child problem behaviour (e.g. Gardner, 1994).

In socialisation studies, dimensions of positive affect have often been operationalised as behavioural manifestations of sensitivity. Furthermore, although aspects of parenting quality have been studied in terms of expression of positive and negative affect (Dowdney et al., 1984; 1985; Dowdney & Pickles, 1991; Gardner, 1987; 1994), these are dimensions of behaviour that have been rather neglected by social development research on middle childhood (Weinfield, Ogawa, & Egeland, 2002). This limitation is even more marked if considering that there are age-related changes in affective responses occurring in the early school years onwards. At this developmental stage, children have become more skilled in recognising emotional facial expressions, generating emotional concepts, focusing on emotional cues, understanding the emotional perspective of others, and are more likely to cite internal psychological states (Greenberg et al., 1995). Additionally, although parenting research suggests that socially competent children can be differentiated from their less well-socialised

counterparts in the extent to which their parents exhibit parenting styles characterised by positive affect and effective management skills, conceptual/methodological articulation between both dimensions has not been conducted (Dix, 1991, O'Connor, 2002).

Because intervention programmes for parents and children at risk of or suffering from behavioural problems are more focused on modifying behaviour rather than emotions, targeting change in individual components of affect/emotional expression has not been a priority (Izard, 2002). Furthermore, improvement in parenting quality usually refers to increased use of effective disciplinary techniques coupled with increased positive attention to the child through praises and acknowledgements, and overall warmth displays toward one another (e.g. kissing, hugging) (Webster-Stratton & Herbert, 1996; Nixon, Weeney, Erickson, & Touyz, 2003; Kazdin, 2005). Thus, affect/emotions are studied mostly in very general and broad terms referring to the overall quality of the parent-child relationship rather than corresponding to a discrete/individual parent or child characteristic where mood and feeling states are clearly specified (Izard, 2002). The extent to which changes in these individual affective components could mediate changes in parenting quality and/or child problem behaviour is therefore mostly unknown.

In this study, the issues above were addressed according to the following. First, conceptualisations of parental and child affect had to be congruent with the Attachment Theory view on the role of emotional expression in the establishment of attachment (in)security. According to this view, secure-base behaviour is promoted through open expression of affect within the dyad. This not only involves parental acceptance of the child's expressions of affect, whether positive or negative, but is also manifested by the spontaneity and congruence between verbal and nonverbal affective signals by parent and/or child. This conceptualisation fits in with the notion of emotional attunement and availability according to which the attachment relationship is strengthened via positive and appropriate emotional exchanges between parent and child. In this sense, security is promoted from experiencing effective affect regulation (i.e. the child's impulses, mood states, and/or feelings are not only acknowledged and accepted by his/her attachment figure but are also adequately responded to by matching/synchronised parental affective behaviour) (Biringen, 2000; Beckwith et al., 2002; Sroufe et al., 2000).

Second, parental affective behaviour was defined as a separate construct from Sensitive Responding, particularly one of its components – Warmth (see Methods section below). While attachment and socialisation research has contributed several re-conceptualisations of sensitivity where parental expressions of affect are also emphasised, there is some agreement on the differentiation between these constructs. Whereas sensitivity often refers to parental comforting behaviours of responsiveness, warmth, support, and assistance, positive affect specifically pertains to the parent's tendency to express positive emotion (whether verbally or nonverbally) even if these emotions are not directed toward the child (Eisenberg, Losoya, Fabes, Guthrie, Reiser, Murphy, Shepard, Poulin, & Padgett, 2001a). Although positive affect and sensitivity may overlap in the extent to which the former may be indicative of parental warmth and nurturing behaviour toward the child (i.e. aspects of sensitive parenting), their conceptual differentiation has not only been suggested but has also received some empirical support. Key findings of the scant existing research on this topic indicate that parent positive affect (i.e. high energy/activity levels, enthusiasm and sociability) predicts warmth and support in parent-infant interactions as well as sensitive and stimulating parenting (Mangelsdorf, Gunnar, Kestenbaum, Lang, & Andreas, 1990; Belsky, Crnic, & Woodworth, 1995). More recently, parental positive expressiveness not directed toward the child (i.e. positive facial reactions to positive stimuli presented in slide format) was found to mediate the association between parental warmth (i.e. affectionate behaviour directed at child) and children's empathy (i.e. matching between evoking and evoked positive and negative emotions) in a longitudinal study involving a sample of school-age children (mean age of 112.8 months) (Zhou, Eisenberg, Losoya, Fabes, Reiser, Guthrie, Murphy, Cumberland, & Shepard, 2002). In short, these studies suggest that positive affectivity may involve several different aspects and that the particular form in which this is expressed may be linked to specific domains of adaptive parenting including manifestations of warmth and sensitivity. Only a differentiated approach in which positive affect is examined as a distinguishable feature from sensitivity and/or warmth constructs can further our understanding of its unique and/or cumulative effects on child outcomes (Kochanska, Clark, & Goldman, 1997). By differentiating parental and child positive and negative affect from the construct of Sensitive Responding, the present investigation allowed the examination of the extent to which both aspects of parenting independently associate with varied child outcomes.

Third, examination of the correspondence between positive and negative affect and disciplinary parenting practices was also conducted in this study. Fourth, the extent to which a social learning based parenting programme was successful in changing (i.e. improving) expressions of positive and negative affect (i.e. mood/feeling states) in parents and their children was also investigated.

3.2.1.4. The reciprocity/mutuality construct

In her observations of mother-infant patterns of interaction, Ainsworth and colleagues (1978) identified how secure and insecure dyads could be differentiated from one another in the extent to which mother and child contingently paced and/or synchronised their positive behavioural exchanges. This ability to reciprocally and mutually reward the behaviour of one another is judged in terms of how contingently and adequately both parent and child acknowledge and/or respond to each other while sharing close bodily contact, reciprocating affection, maintaining high levels of attentiveness and involvement, and timing/synchronising their responses so as to fit in with what each of them does (Isabella & Belsky, 1991; Isabella, Belsky, & von Eye, 1989). Inherent to this formulation is the notion of bi-directionality of effects in the development of attachments.

In early childhood, operationalisations of this construct have incorporated levels of joint attention, cooperation, positive affect-matching, mirroring/modelling of behaviours, and shared responsiveness (Kochanska, 2002; Forman & Kochanska, 2001; Kochanska, 1997). Although these indicators overlap considerably, and specific aspects of mutuality are equally important in the formulation of other constructs (e.g. responsiveness as an indicator of sensitivity), they have been used to form a coherent, highly reliable construct of parent-child mutuality (Deater-Deckard & Petrill, 2004). Recently, this construct has been formulated in order to include levels of parental responsiveness to the child; child responsiveness to parent; dyadic cooperativeness (e.g. building and/or facilitating teamwork), and dyadic behavioural and emotional reciprocity (e.g. turn-taking quality to verbal and nonverbal behaviours) (Deater-Deckard & O'Connor, 2000).

In older children, closely linked to the notion of dyadic mutuality is the concept of parental positive involvement with the child in the context of joint activities (e.g. play). Involvement encompasses behaviours that promote positive parent-child relationships such as attention to and enthusiastic engagement in child's activities, facilitation and guidance, positive affect and warm interaction, and physical proximity (Gardner, 1987; 1994).

Concepts of reciprocity/mutuality have also been central to social learning based observational studies emphasising the role of coercive cycles of interaction in promoting the early development, maintenance and escalation of problem behaviour in young children (Patterson, 1982). In this context, reciprocity refers to exchanges of aversive behaviour between parent and child that serve to reinforce dysfunctional patterns of interaction.

As suggested above, like most constructs emphasised in attachment research the study of reciprocal/dyadic mutuality has been confined to infancy. Thus, reciprocity applies to the analysis of behavioural exchanges concerning mother-infant vocalisations/sounds, gaze, emotional and physical stimulation (e.g. promoting exploration through positive facial expressions), and responsiveness to distress (soothing fussing/cries) (Isabella & Belsky, 1991; Meins, Fernihough, Fradley, & Tuckey, 2001; Belsky, Taylor, & Rovine, 1984).

In older children, different patterns of mutuality necessarily emerge. Because of increased communicative, intellectual, and loco-motor abilities, the child's contributions to the interchange are more extensive. To maintain positive levels of mutuality, parents have to verbally and/or physically acknowledge and accept their child's input, extend and elaborate communication at concrete and symbolic levels, and promote coordination and negotiation of common goals and strategies to keep joint activity going (Dowdney et al., 1984; Gardner, 1987; 1994; Kochanska, 1997; Forman & Kochanska, 2001).

In socialisation studies of parent-child interaction these considerations have been useful in the operationalisation of mutuality/positive involvement after infancy. However, most of this research has focused on toddlers or pre-school children so far (Weinfield et al., 2002; Kochanska & Aksan, 2004; Kochanska & Murray, 2000; Gardner, 1994;

Dowdney et al., 1984). Furthermore, although mutuality has been found to promote compliance in several studies (Kochanska, Forman, Aksan, & Dunbar, 2005; Deater-Deckard & Petrill, 2004; Kochanska, 1997; Rocissano, Slade, & Lynch, 1987), this dimension has mostly been studied independently from those behavioural components of disciplinary parenting that research has consistently linked to reduction of antisocial behaviour in children. This is particularly reflected in the extent to which studies have used concepts of synchronicity/mutuality to exclusively focus on exchanges of positive rather than aversive behaviour and vice-versa (Kochanska & Murray, 2000; Patterson, 1982; Gardner, 1994). However, research on this area has recently been updated as the joint vs. independent contributions of both dyadic aspects of parent-child joint play (i.e. a sub-category of mutuality) and dimensions of negative parenting (i.e. conflicting control episodes) to child conduct problems were investigated in a unique short-term longitudinal study by Gardner and colleagues (Gardner, Ward, Burton, & Wilson, 2003). Using observational measures of joint play (i.e. parent and child engaged in friendly and cooperative work) and conflict (i.e. disputes about child's behaviour, demands or non-compliance) in an at-risk community sample of conduct problem pre-schoolers, the authors found that time spent in joint play at age 3 predicted individual improvement in conduct problems at age 4, and most importantly, this effect was independent from other crucial risk factors including initial level of conduct problems and hyperactivity, social class, maternal depression, and frequency of negative mother-child interactions. By providing evidence for the contributions of positive parenting over and above negative parenting to the reduction of conduct problems, Gardner et al's (2003) findings are in clear contrast with previous research (Patterson et al., 1992). Although methodologically strengthened by the use of a more stringent longitudinal analysis allowing for several important predictors of conduct problem outcomes to be controlled for, and the use of detailed observational measures, there were also some key limitations to Gardner et al's (2003) study, including the use of a small sample (i.e. 60 children), a brief follow-up, and use of report measures at age 4. It should also be emphasised that in Gardner et al's (2003) study the measure of joint play was restricted to amount of time spent in pleasurable activities with information about its quality (e.g. shared affect, scaffolding strategies) being lost. Therefore, their joint play measure does not equate with the most common approaches to the assessment of mutuality as discussed above.

In spite of several longitudinal studies indicating the potential causal role of mutuality in predicting future internalisation of rules and compliance, the lack of experimental designs focusing on the link between mutuality and child problem behaviour makes these findings vulnerable to competing interpretations (Kochanska et al., 2005; Kochanska & Murray, 2000; Kochanska, 1997). Furthermore, although intervention approaches to prevention/treatment of problem behaviour in children have incorporated competing explanations of effective parenting such as positive involvement/mutuality and positive vs. negative disciplinary strategies (Webster-Stratton & Herbert, 1996; Webster-Stratton & Hancock, 1998; Hembree-Kigin & McNeil, 1995), the independent vs. cumulative contributions of both aspects of parenting on child outcome has not been considered.

This study addressed the issues above by providing an operational definition of mutuality congruent with core conceptualisations of Attachment Theory (see above) but applicable to school-aged children. Also, the association between this variable and a range of positive and negative child outcomes was investigated. Furthermore, indicators of child problem behaviour included but were not limited to levels of non-compliance. Using an intervention design where improvements in parent-child relationship quality are the main target, correspondence between mutuality and disciplinary parenting practices was also examined.

3.2.2. Attachment Theory: key methodological approaches to measuring parent and child attachment behaviours

Infant and toddler's attachment behaviour (12 to 20 months of age) has been exclusively measured using the "Strange Situation Paradigm" (SSP) (Ainsworth et al., 1978; Lieberman & Zeanah, 1999). The aim of this procedure is to capture the balance between proximity seeking and exploratory behaviour under conditions of increasing stress induced by separation from vs. reunions with the caregiver. Children are classified as securely or insecurely attached by matching each observed case to a multidimensional, categorical template. These differential patterns of attachment have been associated with variations in maternal responsiveness in observational studies using the SSP (Ainsworth, Bell, & Stayton, 1971; Ainsworth & Witting, 1969; Ainsworth et al., 1978). Even though this procedure does not directly assess maternal behaviour, these findings have been continually used to establish the causal role of maternal sensitivity in promoting security of attachment (Schneider-Rosen &

Rothbaum, 1993; Ziv, 2005). This has resulted in having categories of secure vs. insecure attachment corresponding more to a reification of infants' reactions to separation form their caregivers and less to developmental outcomes linked to specific types of parental behaviour (Barth, Crea, John, Thoburn, & Quinton, 2005; Schneider-Rosen & Rothbaum, 1993).

Although some efforts have been made to apply main attachment conceptualisations in later stages of development, studies have mostly focused on the operationalisation of attachment-based behaviour and/or development of measures applicable to the pre-school period (Speltz et al., 1995; DeKlyen & Speltz, 2001), adolescence or adulthood (Cassidy & Shaver, 1999; Thompson & Raikes, 2003). As a result, in middle childhood there is a gap in instrumentation development and validation (O'Connor, 2002; Kerns et al., 2000; Thompson & Raikes, 2003).

In pre-school and early elementary school years, most methodologies used heavily rely on separation-reunion procedures, and/or secure-base behaviour formats (e.g. Q-set assessments) (Solomon & George, 1999; Vaughn, 2005). Particularly neglected by research is the operationalisation of school-age developmental equivalents of parental sensitivity (Stams, Juffer, & van Ijzendoorn, 2001). An exception to this has been the development and refinement of a self-report measure of attachment security – the Security Scale (Kerns, Klepac, & Cole, 1996). This measure assesses the extent to which the child's responses correspond to a perception of their caregivers as responsive and available and has so far constituted the only systematic effort to validate a new attachment instrument of secure base behaviour in this age group (Kerns et al., 1996; Kerns et al., 2000; Thompson & Raikes, 2003).

Another type of methodology employed in school-aged children refers to techniques that rather than assessing attachment-based behaviour in children are designed to assess the child's attachment state of mind or representations of attachment (Oppenheim & Waters, 1995). Mental representations of attachment correspond to scripted information about the child's experiences of security in the context of relationships with his/her caregivers (Vaughn, 2005). A direct way to gain access to these scripts is to study the quality of the child's discourse/narrative during completion of story stems designed to evoke attachment-related issues. The assumption is that children will project onto the story's characters their own thoughts and emotions associated with their experiences

(past and present) with main attachment figures (Oppenheim, Nir, Warren, & Emde, 1997; McCarthy, 1998; Thompson & Raikes, 2003). Children are classified as securely attached if their narratives are characterised by (a) coherent descriptions of relationships where main attachment figures are referred to as consistently available, empathic and warm, and (b) imaginative, constructive, and effective ways of utilising attachment figures for stress assuagement are suggested. In contrast, insecurely attached children present narratives characterised by lack of emotional openness, avoidance of strategies to assuage distress, hostile and/or bizarre interactions with attachment figures, and unresolved endings (Green, Stanley, Smith, & Goldwyn, 2000; Goldwyn, Stanley, Smith, & Green, 2000; Oppenheim & Waters, 1995).

At present, there are a series of validity difficulties associated with the use of representational measures in the early school years. These mainly refer to the extent to which children's narratives may be affected by a series of factors not necessarily related to attachment security such as verbal fluency, specific features of parent-child discourse (e.g. reference to thoughts, motives, and intentions), and elaboration of events based on false memories and/or co-constructions with the examiner (Bretherton, 2005; Thompson & Raikes, 2003; Oppenheim et al., 1997). These validation difficulties stem from the prevailing use in attachment research of single measurement approaches. This precludes the examination of the extent to which different attachment-based assessments converge and/or diverge as well as investigating the association between post-infancy attachment measures and external assessments of parent-child relationship quality (Thompson & Raikes, 2003; Schneider-Rosen & Rothbaum, 1993; Kerns et al., 2000).

Other difficulties in the application of attachment-based measurements concern the type of samples employed, the majority being low risk (i.e. middle-class) and of Western/White ethnic origins. The latter particularly applies to post-infancy attachment measures. That is, whereas the SSP has been applied to assess infants' separation-reunion behaviour cross-culturally (Crittenden & Claussen, 2000), the use of representational measures in samples of non-English speaking and/or non-Western/White-European children has been very limited (Vaughn, 2005). This not only precludes an examination of the cultural sensitivity of attachment-based measures, but helps in maintaining the universal view of attachment as an aspect of human nature serving evolutionary functions rather than referring to a culturally specific phenomenon,

in which security and sensitivity are potentially subject to socio-cultural variations (Bowlby, 1997; Rothbaum, Weisz, Pott, Miyake, & Morelli, 2000; 2001; Harwood & Miller, 1991).

Another concern associated with attachment measures is the systematic use of categorical systems to classify attachment status (Rutter & O'Connor, 1999). By assigning subjects to the same group (i.e. category), these methodologies are not sufficiently sensitive to potential variations among individuals. An alternative would be to assess attachment security using a continuous dimension (Kerns et al., 1996; Rutter & O'Connor, 1999). Given that the fundamental function of attachment is provision of security, the use of a continuous security dimension may prove particularly useful for assessing attachment across the life span (Cummings, 1990). Furthermore, in the contexts of interventions the use of continuous measures of attachment security can have important implications. To date, claiming that an attachment-based intervention was successful implies that there were changes in attachment status (i.e. from insecurity to security). However, more specific information on the effectiveness of these programmes is likely to be lost by using a dichotomous approach to measurement. For example, it is possible that an intervention that was not successful in changing attachment status may have nevertheless decreased the level and/or degree of insecurity, and therefore proved effective in preventing the risk for later disorder/maladaptation in the child (Greenberg, 2005). Differences in scores on a continuous (in)security dimension can directly provide estimates of variation in level and/or degree of insecure behaviour whereas descriptive categories cannot.

Another methodological consideration refers to the extent to which the attachment-based model of parent-child interaction has remained separate from other perspectives in terms of the level of analysis adopted in measuring key constructs. The conceptual emphasis on patterns of sensitivity, emotional attunement, and bi-directional dyadic processes such as mutuality/reciprocity necessarily involves a molar view of parent-child relationships (Greenberg et al., 1993). What is defined as sensitive vs. insensitive parenting concerns the distinction between qualitative aspects of the parent-child relationship (macro/global level of analysis) rather than specific individual characteristics of parent and/or child behaviour (micro-level of analysis) (O'Connor, 2002). This is in clear contrast with social learning models of parenting that emphasise

the study of specified behavioural acts through adoption of a micro-analytic and quantitative level of analysis (Speltz et al., 1995).

As discussed earlier, in socialisation studies both conceptualisations of parent-child interaction – the attachment-based or macro view and the social learning based or micro view – have been emphasised in terms of their association with child problem behaviour. However, the extent to which both approaches are conceptually interdependent (e.g. is the parental individual act of praise a key element of a more global sensitivity dimension?) and cumulatively predictive of child outcome has not been consistently examined.

In summary, in young children attachment measures are mostly directed at capturing (a) observed separation-reunion infant behaviour in the context of laboratory procedures (i.e. SSP), (b) observed secure-base behaviour at home in pre-schoolers (e.g. the Q-set), or (c) early school-age mental representations of attachment relationships during completion of doll-play story stems. Common to all these strategies is the relatively limited information they provide about the key parenting styles associated with child attachment behaviours/representations (Mills, Puckering, Cox, Maddox, & Evans, 1996; Schneider-Rosen & Rothbaum, 1993). Also, predominant in attachment research is the use of single informant/measurement strategies, and descriptive/categorical systems to classify attachment status (Kerns et al., 2000; Thompson & Raikes, 2003). Furthermore, the extent to which macro (attachment-based) and micro (social learning based) conceptualisations of parent-child interaction cumulatively predict child outcome (ranging from behaviours to representations) has not been consistently addressed by research so far.

To address the issues above the present study adopted a multi-informant, multi-method approach in the validation of a school-age observational and continuous measure of attachment-related parenting. This included the investigation of a) the association between observed attachment-related qualities of the parent-child relationship and report assessments of positive/child-centred parenting practices, and b) the association between observed attachment-related parenting and doll-play representational measures of attachment. Furthermore, the sample used included an at risk multi-ethnic group of parent-child dyads. In addition, both attachment-based (i.e. macro) and social learning based (i.e. micro) conceptualisations of parenting were adopted in the development of

observational measures. This allowed investigation of the correspondence between both perspectives and the extent to which these are comparably associated with child behaviour and attachment representation.

3.2.3. Approaches to intervention in Attachment Theory: enhancing maternal sensitivity and improving the quality of parent-child relationships

Attachment-based interventions focus on the prevention and/or "correction" of insecure attachments early in life (Wendland-Carro, Piccinini, & Millar, 1999; van den Boom, 1988; 1994). Two main approaches have been adopted: behavioural and representational. The first approach aims at enhancing maternal sensitivity at the behavioural level. The focus is to increase physical contact between parent and infant, and to promote the parent's prompt responsiveness to distress signals (e.g. crying). Increases in sensitivity are expected to promote attachment security in the child. Behavioural interventions are often short in duration, with relatively few personal contacts between intervenors and subjects. In the second approach, a psychotherapeutic model is followed where parents are encouraged to discuss their childhood attachment experiences and explore the extent to which these memories influence their current relationship with their children. The assumption is that through helping parents "correct" their mental representations of past attachment relationships, the cycle of intergenerational transmission of insecure attachments can be broken. In both behavioural and representational interventions, similar criteria for effectiveness are applied: change of insensitivity and infant insecurity (van Ijzendoorn et al., 1995).

In a meta-analytic study reviewing the effectiveness of 12 interventions, the most effective were those that are short-term and with a clear behavioural focus (i.e. manipulation of maternal sensitivity) rather than long-term, and broadband (van Ijzendoorn et al., 1995). A recent meta-analysis of 70 intervention studies confirms van Ijzendoorn et al's (1995) findings. That is, the most effective interventions to enhance maternal sensitivity and promote security of attachment are those that are behaviourally based (Bakermans-Kranenburg et al., 2003).

These findings are crucial as they provide strong support for the causal role of sensitivity on security of attachment, a central position in Attachment Theory (Ziv, 2005; Schneider-Rosen & Rothbaum, 1993). However, some challenges still remain. First, attachment experimental research is still greatly outnumbered by descriptive

studies (i.e. correlational, cross-sectional or longitudinal) (Bakermans-Kranenburg et al., 2003; Ziv, 2005). Second, the impact of sensitivity on attachment has been modest, suggesting that factors other than sensitive interactions must also influence the formation of secure attachments (van Ijzendoorn et al., 1995). Third, attachment interventions have presented a series of methodological limitations including non-randomisation and the absence of control groups (Brinich, Drotar, & Brinich, 1989); use of contrasting measurements to assess effectiveness that can either inflate (e.g. among various existing sensitivity measures, the ones with strongest effects are chosen) and/or restrict (e.g. having a narrow set of security measures that are dichotomous/non-quantifiable in nature) treatment outcomes (van Ijzendoorn et al., 1995); lack of procedures to reduce expectancy effects, such as keeping the leading investigators uninvolved in the administration of the intervention and/or blinding coders to treatment condition (Weiner, Kuppermintz, & Guttmann, 1994; van den Boom, 1988; 1994); and absence of a protocol for the implementation of the intervention (Bakermans-Kranenburg et al., 2003). These methodological flaws do not match the scientific rigor in which social learning based interventions for prevention/treatment of problem behaviour in young children have been conducted.

Another consideration is the extreme lack of attachment experimental research conducted in older children (i.e. post-infancy). So far, only one study has examined the long-term effectiveness of an early attachment-based intervention implemented in infancy on 7 year-old adopted children's self-regulation and behaviour problems and on maternal sensitive responsiveness (Stams et al., 2001). In this study, a short behavioural intervention designed to enhance sensitivity using book and/or video groups was offered to mixed (i.e. adopted and biological children) and all adoptive families at age 6 and 9 months. At 7 years of age, the long-term effects of the intervention were to improve ego-resiliency and ego-control outcomes in girls, and internalising behaviour in boys in the small sample (N = 35) of mixed families. Although in all adoptive families (N = 112) the enduring effects of the intervention could not be traced in middle childhood, improvements in maternal sensitivity, security of attachment, and infant exploratory competence were detected in early childhood.

There are two crucial aspects of Stams et al's (2001) findings that should be noted. First, they add to the growing number of studies confirming the high effectiveness of behaviourally based attachment interventions in improving sensitivity and security of

attachment (van Ijzendoorn, Bakermans-Kranenburg, & Juffer, 2005; Bakermans-Kranenburgh et al., 2003; van Ijzendoorn et al., 1995). Second, they suggest a causal relationship between maternal sensitivity and a variety of child outcomes including but not exclusive to security. Furthermore, sensitivity early in life is shown to impact the child's social-emotional adjustment in later stages of development.

Although there were no long-term effects of Stams et al's (2001) intervention on levels of externalising behaviour in middle childhood, the recent study by Juffer et al (2005) reported the effectiveness of a short-term behaviourally focused attachment programme using video-feedback in lowering the rate of infant disorganised attachment, a known risk factor for later child psychopathology including conduct problems (Lyons-Ruth, 1996; Carlson, 1998; Green & Goldwyn, 2002; van Ijzendoorn, Schuengel, & Bakermans-Kranenburg, 1999). As proposed by Juffer et al (2005), the main reason for the success of this intervention over and above a programme providing written information only (i.e. book group) was that it allowed modelling and reinforcement of maternal sensitive behaviour through repeated exposure to video fragments depicting responsive interactions. Through this medium the intervenor could highlight the child's signals, and direct the parent's attention to their child's behaviour. The authors suggest that enhanced sensitivity in the form of increased attentional skills was crucial for the success of the intervention as it refers to opposite manifestations of unpredictable and/or frightening parenting behaviours such as interference and un-involvement, known to predict disorganisation (Main & Hesse, 1990).

The overwhelming message conveyed by the studies above is that interventions that are behavioural in focus and adopt a video-home training approach are not only effective in enhancing sensitivity and security of attachment but may also prevent the early development of conduct problems through reductions in disorganisation, and promotion of optimal self-regulation. However, in light of the limitations above, it is still unknown the extent to which in older children behaviourally based interventions are equally effective in enhancing sensitivity. A related question is whether increased sensitivity in later stages of development has an impact on levels of problem behaviour.

In attachment research, there have not been experimental studies conducted investigating the causal connection between sensitivity and conduct problems (van Ijzendoorn, 2002). As explained above attachment-based parenting programmes focus

on enhancing sensitivity to foster security in infancy/toddlerhood. The emphasis is on the promotion of secure attachment relationships early in life rather than improvement in management processes that usually emerge in later stages of development, when problem behaviour increases and becomes more disruptive (Greenberg et al., 1993; Greenberg & Speltz, 1988). Instead, parenting practices for managing misbehaviour in later years (i.e. toddlerhood and/or pre-school onwards) become the focus of social learning based preventive/intervention programmes (Kazdin, 1996; Patterson, 1982). The implementation of these interventions has provided extensive evidence for the causal link[3] between management parenting practices and conduct problems in children (Kazdin, 2005; Scott, 2002; Serketich & Dumas, 1996). These programmes are not only focused on the teaching of effective disciplinary strategies but they also emphasise specific aspects of sensitive responding during training (e.g. following the child's lead in the context of play interactions) (Webster-Stratton & Herbert, 1996; Scott, 2003a). Furthermore, within this framework and similarly to the attachment-based approach described above, highly effective interventions have adopted video-modelling approaches to training[4] (Webster-Stratton, 1994b; Scott et al., 2001a). A plausible outcome of these non-attachment-based programmes is that they may be equally effective in improving sensitivity, as well as leading to a reduction in child problem behaviour. This is a possibility that hasn't been addressed yet.

To address the various limitations above the present study a) used an intervention design methodologically strengthened through randomisation of subjects, inclusion of a control group, use of continuous measures to quantify change, blinding of coders to treatment condition, use of a standardised protocol describing the intervention, and evaluation of the programme conducted independently from its implementation; b) used a sample of 5 to 6 year olds; and c) assessed the enduring effectiveness of a social learning based parenting programme that uses a video-modelling approach to training in effective disciplinary strategies and child-centred behaviour (e.g. increased attention to the child's actions in play) in increasing sensitive responding at 6 months follow-up.

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[3] For clarification on attribution of causal influences in the context of intervention studies refer to Hinshaw (2002b).

[4] I.e. Video-modelling techniques refer to the use of videotaped scenes of 'effective' and 'ineffective' ways of parenting children to prompt discussion and illustrate principles to participant parents during group sessions. Similarly, in attachment-based interventions, video-feedback techniques are used to allow modelling and reinforcement of behaviours. However, both methods differ in that the latter provides feedback on the programme participant's own parenting whereas the first uses pre-recorded scenes of parents and children 'modelling' behaviours for training purposes only (i.e. they are not the targets of the intervention).

3.3 Social Learning Theory

3.3.1. Main theoretical predictions and key conceptual considerations

The social learning model draws on both Bandura and Walters' modelling theory (1963) and Patterson's coercion theory (1982) to provide a theoretical foundation for the link between management/control parenting strategies and child antisocial behaviour. Specifically, this approach stipulates that children learn to (mis)behave when interacting with significant role-models, primarily their parents. The modelling of behaviour is a result of the extent to which parents reward, reinforce, and punish their children. Rewards (e.g. praise) foster child pro-social behaviour; punishment is a negative consequence (e.g. smacking) for difficult behaviour and, reinforcement relates to processes that maintain child behaviours. Child problem behaviour can be positively and negatively reinforced. An example of positively reinforcing problem behaviour is to give attention to the child when he/she misbehaves (Wahler, 1976). Criticising the disobedient child, and/or providing him/her with inconsistent discipline (e.g. failing to punish after many threats) serves to negatively reinforce problem behaviour (Scott, 2002; Webster-Stratton & Hooven, 1998; Kazdin, 1997; Durkin, 1995). The testing of the social learning model has been extensively conducted through observational research of parent-child interaction in the home (Patterson, 1982; Patterson et al., 1992), as well as through intervention studies targeting reduction of conduct problems in early childhood (Kazdin, 1987; Serketich & Dumas, 1996; Scott, 2002; Forehand & McMahon, 1981).

3.3.1.1. Emphasis on parental control and the "coercive process"

Parental monitoring of children's behaviour, provision of contingent responses to both pro-social and deviant behaviour, handling conflict, problem solving, and limit setting are all defining aspects of parental control (Dowdney et al., 1984; Webster-Stratton & Hancock, 1998; McMahon & Forehand, 2003; Patterson, 1982). Effective control incorporates developmentally appropriate levels of limit setting, supervision, contingency and appropriate punishments (Arnold, O'Leary, Wolff, & Acker, 1993; Chamberlain & Patterson, 1995). In contrast, ineffective control techniques refer to overreactive discipline, power-assertion, and permissive or inconsistent parenting (Cunningham & Boyle, 2002).

Characterising overreactive discipline are high levels of parental anger, meanness, irritation and frustration in response to child misbehaviour, and the use of power-assertive techniques including physical punishment, yelling and threats (Harvey-Arnold & O'Leary, 1997; Hemphill & Sanson, 2001). Through generating fear and submission to authority the effectiveness of these techniques is short-termed. Their effectiveness in the long-term is however limited as they do not foster a cooperative attitude in children (Edwards, 1995). Ineffective control is also manifested through laxness, permissiveness and inconsistency. These disciplinary styles refer to parents that allow un-enforcement of rules, provide positive consequences for misbehaviour, fail to set limits, and give in to children's coercive behaviour (Harvey-Arnold & O'Leary, 1997).

Patterson's theory of the "coercive process" (Patterson, 1982) constitutes the most influential developmental model describing the family control processes associated with the learning (through modelling and reinforcement) of antisocial behaviour in young children (Gardner, 1992; Webster-Stratton & Hooven, 1998). In his detailed observations of family interaction at home, Patterson (1982) identified two main processes involved in the maintenance of aversive child behaviour. First, this behaviour was frequently reinforced by parental attention in the form of negative remarks (e.g. nagging, criticism). This then led to a pattern of escalating coerciveness between parent and child. Secondly, after repeated threats, parents failed to carry them through and would retreat, thus reinforcing the child's disruptiveness by stopping being hostile. In short, this model suggests that antisocial behaviour is mainly learned through a process of negative reinforcement – i.e. the termination of an unpleasant event serves to strengthen the behaviour (Patterson, 1982; 1986; Patterson et al., 1992; Snyder & Patterson, 1986). Key aspects of this work are a) the central role of parents as socialising agents; b) the emphasis on negative, inconsistent and/or controlling parent disciplinary behaviour as potential (causal) contributors to the development of conduct problems, c) the analysis of streams of behaviour (i.e. interaction sequences including antecedents and consequences of problem behaviour) using fine-grained behavioural categories, and d) the implication of parent-child bi-directionality of effects in the development of antisocial behaviour (Patterson, 1976; 1982; Patterson et al., 1989; Shaw & Bell, 1993; Gardner, 1992; Webster-Stratton & Hancock, 1998).

Patterson's (1982) model of coerciveness has been supported by abundant research attesting for the links between management practices and problem behaviour (Kazdin, 1997; Webster-Stratton & Hooven, 1998; Scott, 1998; Patterson et al., 1992). However, a direct result of the exclusive focus on parent-child conflict situations (i.e. of most interest are contexts where child transgresses) is that much less attention has been paid to the extent to which disciplinary parenting styles may also contribute to promotion of adaptive/pro-social behaviour (Greenberg et al., 1993; Gardner, 1994). Furthermore, compared to the vast literature establishing correlational and causal associations between control techniques and conduct problems, studies looking at the relative contributions of social learning based management skills and positive dimensions of the parent-child relationship (e.g. positive involvement) to the reduction of child problem behaviour are relatively few (Patterson et al., 1992; Martinez & Forgatch, 2001; Gardner et al., 2003; Gardner, Shaw, Dishion, Burton, & Supplee, 2006a).

3.3.1.2. Discipline: power-assertive vs. love-oriented approaches

Socialisation researchers have acknowledged the tendency for control theorists to de-emphasise other crucial aspects of the parent-child relationship besides enforcement of rules in the face of non-compliance. As noted by Dowdney (1987) "it is questionable whether adequate explanations of what makes a child comply can be derived from an analysis of control interactions alone" (pg. 85). In fact, early socialisation studies emphasised the contribution of emotion-based, affectionate behaviours to disciplinary/management processes. Discipline techniques were classified as power-assertive and love-oriented. A forceful approach to discipline includes use of physical punishments, shouting, imperative commands, and threats. In contrast, an emotion-based disciplinary style refers to use of contingent giving of affection, reasoning, facilitative statements (e.g. suggestions), and showing disappointment (Maccoby & Martin, 1983; Gardner, 1994). Whereas power-assertive techniques are characteristic of authoritarian parenting styles, love-oriented discipline is associated with an authoritative approach to child rearing (Baumrind, 1971; Maccoby, 1980; Durkin, 1995).

A responsive and child-centred approach to discipline has also been described as deliverance of consistent and clear commands, properly fitted with the child's developmental status, to the nature of his/her actions, and to the child's

temperament/mood. More importantly, these messages should convey a minimal threat to the child's feelings of autonomy (i.e. power-assertive methods should be minimised as they constitute frightening features of parental behaviour that may foster a sense of emotional/physical insecurity in the child) (Grusec & Goodnow, 1994). This balance between the need to control difficult behaviour and allowing some degree of autonomy in the child is expected to promote appropriate self-control, self-competence, internalisation of rules and the willingness to comply (i.e. control strategies coupled with warmth/responsiveness foster the child's individuality and his/her desire to respond to the parent in a cooperative/reciprocal fashion) (Dowdney et al., 1984; Kochanska, 1997; Gardner, 1987; 1994; Maccoby & Martin, 1983; Masten, Hubbard, Gest, Tellegen, Garmezy, & Ramirez, 1999).

The notion of a child-centred approach to discipline has been emphasised by parenting programmes based on non-directive play (e.g. Webster-Stratton, 1981; 1994a; Forehand & McMahon, 1981; Hembree-Kigin & McNeil, 1995). Rather than just teaching parents to manage the contingencies around child antisocial behaviour (e.g. Patterson, Chamberlain, & Reid, 1982), promotion of a responsive attitude during play through positive commenting of the child's actions, and following the child's lead by providing non-intrusive and helpful guidance is also emphasised (McMahon & Forehand, 2003; Webster-Stratton, 2002; Frick, 2001). Although these programmes are based on social learning principles, the coaching of a child-centred attitude that forms part of their training package could be construed as training parents in sensitive responding and the ability to be mutually involved with their children, these being core concepts derived from Attachment Theory (Scott, 2003a). Therefore, the possibility that social learning conceptualisations of effective parenting correspond to attachment-related dimensions of sensitivity can be examined in the context of these interventions. However, this cross-theoretical examination has not been conducted in spite of several investigators involved in the development and/or implementation of interventions highlighting the benefits of integrating attachment principles (Webster-Stratton & Hooven, 1998; Sutton, 2001; Scott, 2002; Greenberg, DeKlyen, Speltz, & Endriga, 1997).

3.3.2. Social Learning Theory: key methodological approaches to measuring parent-child interaction

3.3.2.1. Measuring disciplinary parenting practices

The social learning based approach has emphasised the use of multiple assessment strategies to identify effective vs. ineffective parenting practices implicated in the early development of problem behaviour in children. Strategies include interviews, self-reports, parent, teacher and peer ratings, and direct observation (Kazdin, 1996; 1997; 2003; McMahon & Metzler, 1996). The combination of multiple sources of data (different measurements and/or informants) has proven a powerful strategy to address construct validation issues, as it reduces the amount of error introduced when adopting mono-method procedures (Dishion, Li, Spracklen, Brown, & Haas, 1996; Kazdin, 2003).

Regardless of the modality of assessment adopted, measures used within this approach are often based on definitions of parenting that uniquely emphasise specific aspects of effective vs. ineffective discipline practices (Locke & Prinz, 2002; Mills et al., 1996; Lindahl & Malik, 2001). Operationalisations of effective disciplinary practices include use of clear requests, positive reinforcement of appropriate behaviour and non-coercive punishment of rule breaking (Olson & Foster, 1991; Robinson & Eyberg, 1992). In contrast, ineffective discipline has been operationalised as use of unclear rules, attention for inappropriate behaviour, frequent use of coerciveness, and insufficient reinforcement for appropriate behaviour (Patterson, 1986; Sansbury & Wahler, 1992). Within this approach, the emphasis on disciplinary aspects of parenting implies that it is the dysfunctional aspects of child behaviour (e.g. aggressiveness, non-compliance) that should be prioritised for measurement (Greenberg et al., 1993; Speltz et al., 1995; Harris, Bernstein, & Springer, 2003).

3.3.2.2. Micro and macro-analytical observational methods of assessment

The learning of behaviours through modelling and the interactional sequences involved in cycles of coerciveness that serve to develop and maintain problem behaviour constitute key social learning processes that have been particularly well studied with the use of observational methods (Patterson, 1982; Chamberlain & Patterson, 1995; Kerig & Lindahl, 2001; Webster-Stratton, 1994b). Main behavioural categories of social

learning based coding schemes are clear and unclear commands, warnings, questions, attends, praises, and criticisms, as well as child compliance and non-compliance. Examples of widely used social learning based observational measures are the Family Interaction Coding Scheme (FICS) (Patterson, 1982; Reid, 1978), the Dyadic Parent-Child Interaction Scale (DPICS) (Robinson & Eyberg, 1981; 1992), and the Behaviour Coding Scheme (BCS) (Forehand & McMahon, 1981) (for reviews see Locke & Prinz, 2002; McMahon & Metzler, 1996; and Aspland, 2001). Overall, these methods employ and event-based/micro-analytical approach to measurement i.e. each unit of specified overt behaviour (e.g. critical comment) is counted separately. By identifying discrete behaviours and their associated contingencies (e.g. acknowledging compliance to previous command), complex chains of interactional events can be identified (Gardner, 1992; Patterson, 1986). To reduce the large amount of data produced by event-recording systems, aggregation of behavioural frequencies into composite codes is usually conducted. Composite measures serve to qualify patterns of parenting behaviour and often refer to positive parenting, negative/positive control, inconsistency, reinforcement, critical statements, or aggressive behaviour (Robinson & Eyberg, 1981; Brophy & Dunn, 2002; Bates, Pettit, Dodge, & Ridge, 1998; Lytton, 1973; Dumas & Gibson, 1990).

Although micro-analytical techniques provide detailed information of the behavioural control procedures operating in the family they do not consider the impact of other crucial and interdependent aspects of the parent-child relationship such as feelings, intentions, and communication quality (Mills et al., 1996; Mahoney, Coffield, Lewis, & Lashley, 2001). By losing much of the complexity and interrelatedness of emotions, cognitions and behaviours that are at the core of the parent-child relationship these measures not only de-contextualise parenting, but also the specific phenomenon they intend to measure (e.g. discipline). For example, it could be that the amount and type of discipline displayed is determined by what else is going on between the dyad (Gardner, 1992; Dowdney et al., 1984).

To provide a measure of parent-child interaction in which contextual evidence is not minimised, macro-analytical systems have been introduced (Kerig & Lindhal, 2001). These methods consider qualitative aspects of the parent-child relationship beyond the presence and/or absence of specific parental disciplinary skills (e.g. positive affectivity) that have also been found to promote the child's healthy socio-emotional development,

including increased levels of behavioural adjustment (Mills et al., 1996; Maccoby & Martin, 1983). Common categories that have been identified and targeted for measurement include levels of warmth, engagement, responsiveness, and reciprocity (Locke & Prinz, 2002; Dowdney et al., 1984; Gardner, 1994). By using larger coding units or global ratings of a warmth category for example, coders are required to provide a subjective estimate of the quantity and intensity of warm displays rather than counting behavioural frequencies as used in event-based/micro-analytical systems. That is, the dyad is given an overall score of warmth in a Likert-type scale following the entire duration of the interaction (Aspland & Gardner, 2003). Given the higher levels of abstraction/subjectivity used by macro-analytical approaches, these may potentially lead to unreliable outcomes (Dowdney et al., 1984; Lindsey & Mize, 2001b). Nevertheless, global ratings have consistently been found to relate to child outcome measures in a way that predefined behavioural categories often have not (Bakerman & Brown, 1980; Maccoby & Martin, 1983). Furthermore, coding costs are dramatically decreased as macro-analytical measures are less complex than micro-analytical systems, thus requiring less time for training and coding (Kerig & Lindahl, 2001). Given these advantages, the use of macro-analytical measures has become increasingly prominent in child developmental research, particularly from the mid 1990s onwards (Scott, 2001; Arney, 2004).

In the study of parent-child interaction in families of conduct problem children both micro and macro-analytical approaches to measurement have been mostly applied to populations of children in the toddler and/or pre-school years, in the context of structured and/or semi-structured tasks (e.g. free-play) at home or in the clinic (Mills et al., 1996; Kerig & Lindahl, 2001; Locke & Prinz, 2002). Consequently, a wealth of information has been acquired on both the parenting practices and the aspects of the parent-child relationship that are implicated in the development of problem behaviour in these age groups whereas less attention has been paid to older children (i.e. school years) (Weinfield et al., 2002).

3.3.2.3. Measurement approaches in the context of social learning based interventions

In the context of evidenced-based parenting programmes, which draw on social learning principles, there is a predominant use of micro-analytical systems as tools for evaluating change (i.e. the treatment effectiveness) in parent and/or child behaviour from pre to

post and/or follow-up stages (McMahon & Metzler, 1996). A common approach is to take the ratio of child-centred behaviour (e.g. sum of all praises and attends) versus child-directive behaviour (e.g. sum of all commands) and use this as an indicator for potential change (Jenner, 1992). Therefore, change in parenting refers to increases and/or decreases in frequencies and/or patterning of specific aspects of the interaction, namely ones to do with parental control, but reflects little if any variation in the content or quality of verbal interaction, the broader context in which the dyad's behavioural exchanges take place, and/or the sensitivity, affective tone and cognitive style of interactions (Reid, 1978; Dunn & Kendrick, 1982). For changes in parenting quality to reflect improvement in both specific and subtler dimensions of interaction, the use of dual systems combining micro and macro-analytical assessment methods constitutes an effective strategy (Aspland & Gardner, 2003). Some behaviourally oriented interventionists have recognised the relevance of adopting such measurement strategies in the evaluation of treatment success. For example, a revision has been conducted to the initial version of the DPICS (Robinson & Eyberg, 1981), a micro-analytical coding scheme that has been systematically used to evaluate treatment outcome (Webster-Stratton & Herbert, 1996). The revised version (i.e. DPICS-R) by Webster-Stratton, includes five-point observer ratings of parent and child nonverbal affect (ranging from unrestrained negative affect to exuberant affect). Therefore, indicators of change in parent and/or child behaviour not only include increases or reductions in frequencies of behaviour (e.g. praises, criticisms, chain commands, non-compliance) but also refer to variation in the expression of affect during the interaction (e.g. supportiveness or warmth displays while directing the child) (Webster-Stratton & Herbert, 1996; McMahon & Metzler, 1996).

Notwithstanding the gradual increase in the use of macro-analytical measures, the reliance on micro-analytical/quantitative measures of parent-child interaction within the social learning based perspective is still prevailing in research (Speltz et al., 1995). Indicators of change are derived from variations in specified control practices rather than multi-dimensional aspects of parent-child relational style (Mills et al., 1996). When both macro and micro-analytical approaches to measurement are adopted, qualitative aspects of the parent-child relationship are defined in narrow terms (e.g. focus on expressions of positive affect) (Harris et al., 2003). Furthermore, underlying both measurement approaches are different theoretical views of parenting, which have not been integrated so far. The macro-analytical view emphasises the

affective/relational qualities of parent-child interaction (e.g. sensitivity and affective style), whereas the micro-analytical view focuses on specific dimensions of adaptive/effective parenting (e.g. contingent rewarding of pro-social behaviour) (Locke & Prinz, 2002). Although the quality of parent-child relationships is clearly affected by both macro and micro-elements, an examination of whether these different approaches can contribute individually and/or together to the prediction of problem behaviour has not yet been conducted (Speltz et al., 1995).

3.3.3. Social learning based interventions: training in effective parenting

Social Learning Theory (SLT) and behavioural operant conditioning have been the two main approaches guiding the theoretical formulation of parenting programmes (Speltz et al., 1995; Scott, 2002; 2003a). Mostly emphasised is the replacement of inappropriate behaviours that promote child aggressive behaviour with strategies to increase child compliance. Training in effective parenting involves (a) identification of inappropriate behaviours (e.g. criticism, harsh/inconsistent discipline, lack of interest in child's activities), (b) learning and continuous rehearsal of appropriate behaviours (e.g. positive attention, social rewards, consistent and predictable limit setting) and (c) replacement of harsh sanctions (e.g. spanking) with physically non-harmful punishment (e.g. time-out). For the learning and practice of skills a variety of methods are used ranging from individual work or group discussion, role-play and rehearsal, home-practice to video-modelling (Webster-Stratton & Hooven, 1998; Kazdin, 1997; Scott, 2002; McMahon & Forehand, 2003; Hutchings, Lane, & Kelly, 2004).

The best evaluated parenting programmes have used randomised controlled trials (RCT's), adequate sample sizes, relevant and valid measures of parent/child behaviour and have been conducted in different settings (e.g. home and clinic) (Gardner, Lane, & Hutchings, 2004). The empirical evidence for the effectiveness of these programmes is strong. Improvements in child behaviour have been identified through a variety of sources and methods, problem behaviours have been placed within non-clinical levels of functioning, maintenance of gains have been reported 1 to 3 years after treatment, and improvements in behaviour not directly focused on during treatments (e.g. maternal depression) have also been documented (Kazdin, 1997; Scott, 2002; Webster-Stratton & Hammond, 1997; Hutchings, Appleton, Smith, Lane, & Nash, 2002).

Both Parent Management Training (PMT) based on Patterson et al's (1982; 1975) "Living with Children" programmed manual, and the "Incredible Years" (IY) by Webster-Stratton (1981; 1982a; 1982b; 1984) constitute two of the most well-researched and widely used parenting programmes. The first approach refers to a cognitive-behavioural treatment that trains parents in child management skills. Teaching methods involve provision of reading materials and individual work with each parent using a step-by-step approach where learning of a new skill forms the basis for learning of subsequent skills. The core content of the programme includes a) pinpointing and tracking of problem behaviour at home, b) using social and tangible reinforcement techniques (e.g. praise), c) learning of effective discipline strategies (e.g. time-out), d) teaching of monitoring procedures (e.g. knowledge of child whereabouts), and e) training in problem solving and negotiation strategies (Patterson, 1975; Reid, 1987). Evaluations of Patterson's programmes based on this approach have been conducted and showed treatment effectiveness with 3-12 year old children referred for serious conduct problems (Patterson, 1974; 1982). "Living with Children" has also influenced the development of numerous other cognitive-behavioural treatments worldwide and the training of health and education professionals over a period of more than two decades (e.g. Herbert, 1987; Conduct Problems Prevention Research Group, 1992; Sutton, 1995).

In the second approach, an integration of the theoretical works of Patterson (1975) and Hanf (1970) constitutes the basis of the "Incredible Years" parenting programme by Webster-Stratton (1982a; Webster-Stratton & Hancock, 1998). The focus is on 1) the teaching of management practices based on Patterson's (1982) non-violent discipline strategies (e.g. time-out, logical and natural consequences, monitoring, problem solving and communication) and 2) using Hanf's (1970) "child-directed play" approaches to promote a warm parent-child relationship through training in interactive play skills (e.g. following the child's lead, praising and encouraging child's ideas and/or actions, communication of thoughts and feelings, and supportive attention) (Webster-Stratton, 1981; Webster-Stratton & Hancock, 1998; Webster-Stratton & Hooven, 1998). The key method used for the teaching of new skills is "videotape modelling". Video-clips depicting a variety of strategies parents use to deal with their children in everyday situations are used in 13 therapist-led group sessions. The content of the interactions observed are then discussed within the group, enabling expression of parents' ideas and feelings. The emphasis on a collaborative, non-didactic model of parent training

coupled with provision of transport, day-care facilities, meals and flexibility of training times has resulted in high levels of participation particularly in "hard-to-engage" disadvantaged families. Attesting for the effectiveness of the Incredible Years parenting programme are numerous studies primarily involving 4-8 year old children with ODD or CD (Prinz & Dumas, 2004). The programme has been evaluated in numerous RCTs in several countries including the UK, conducted in diverse settings and found to be acceptable and equally successful in improving parent and child outcomes among families from ethnic minorities (Reid et al., 2001; Webster-Stratton & Herbert, 1996; Scott et al., 2001a; Gardner & Burton, 2003).

Like most parenting interventions, the Incredible Years programme has been mostly evaluated using clinic-referred samples (Scott, 2003b). However, preventive work has also been conducted in US community-based samples of parents whose children attend the Head Start pre-school enrichment programme (LeMarquand, Tremblay, & Vitaro, 2001). Using large samples of low-income multi-ethnic families, the effects of the IY parenting programme as well as of teacher training (i.e. teaching of classroom positive management strategies and promotion of social competence) have been investigated. In one study of 634 families (370 Caucasian and 264 African-American, Hispanic and South-East Asian), main findings indicated that following treatment and across ethnic groups, observations and reports showed that intervention mothers were less intrusive (i.e. issuing less commands), less critical, more positive (e.g. physically and/or verbally affectionate), more consistent and effective in their discipline, and more involved in their child's school activities than control mothers. In comparison with controls, at post-treatment children of intervention parents were also observed to exhibit fewer behaviour problems. Furthermore, most of the positive changes in parent and child outcomes were maintained at 1-year follow-up (Reid et al., 2001). In another study involving 272 families (63% of children from minority groups) and 61 Head Start teachers, in addition to the positive effects of the intervention in significantly lowering negative parenting and increasing positive parenting in intervention mothers, parent-teacher bonding was also strengthened and experimental teachers showed significantly better classroom management skills than control teachers. In experimental children, there were significant reductions in conduct problems at home and school. Both at pre-treatment and at 1 year-follow up gains were maintained for families with higher attendance to the programme (i.e. 6 or more sessions) (Webster-Stratton et al., 2001).

Overall, the evidence above indicates that the most effective treatments provided to families of children suffering from or at risk of problem behaviour are not only directed at teaching parents effective management skills but also emphasise the promotion of a warm, affectionate and empathetic relationship between parent and child through training in child-centred behaviours in the context of positive and more relaxed situations at home such as play (Frick, 2001; Webster-Stratton & Hooven, 1998; Scott, 2002). Through the learning of management and child-centred skills the use of appropriate discipline is increased and the establishment of the parent-child positive emotional bond is also promoted (Webster-Stratton & Hancock, 1998). At the prevention level, the combination of both these aspects of parent-child relationship quality not only seems to constitute an effective strategy for reducing the risk of later conduct problems but it is also crucial in promoting social competence and school readiness (Reid et al., 2001; Webster-Stratton et al., 2001).

In interventions emphasising non-directive play, both social learning and attachment-based conceptualisations of parenting can be examined in terms of their unique vs. cumulative contribution to change in parenting quality and/or child outcome. For example, in an intervention like the Incredible Years by Webster-Stratton (1981; 1982a), it is plausible that behavioural training in child-centred, warm, and playful interactions corresponds to manifestations of a dimension of authoritative parenting (Baumrind, 1991; Hetherington, 1993). This parenting style has not only been found to foster adaptive psychological development in children but has also been suggested to share conceptual commonalities with the attachment-derived concept of sensitivity (Rutter & O'Connor, 1999). Different components of taught child-centred skills can therefore be conceptualised in attachment terms. In light of this, the effectiveness of the parenting programme can be examined in terms of the extent to which there were improvements in effective child-directive strategies (i.e. discipline) and/or child-centred skills (i.e. sensitive parenting style), followed by improvements in child behaviour.

3.4. Attachment-related and social learning models of parenting: associations with child outcome

The previous section described the main parenting domains emphasised by attachment and social learning models of parent-child interaction. Whereas Attachment Theory emphasises dimensions of sensitivity, affect, and reciprocity/mutuality, Social Learning Theory focuses on control/discipline practices. Definitions of these constructs, key

measurement procedures for their assessment and their use in guiding interventions within each theoretical perspective were provided. This section describes research on the correlational and causal relationships between attachment-related and social learning based parenting domains and main child outcomes. Within an attachment perspective, research reviewed concerns the association between sensitivity and attachment security. Both attachment and socialisation perspectives are also reviewed in terms of the contribution of attachment-related qualities of the parent-child relationship (e.g. positive reciprocity) to child conduct problems. Additionally, research linking social learning based parenting with child problem behaviour is also reviewed.

3.4.1. Correlational and causal associations between attachment-related parenting and child outcomes

3.4.1.1. Links between parental sensitivity and child attachment (in)security

Attachment research has provided consistent evidence for the association between sensitivity and security of attachment (Belsky, 1999; Ainsworth et al., 1978; Crittenden & Claussen, 2000). Mothers of securely attached infants are more sensitive, responsive, tender, and affectionate. In contrast, mothers of insecurely attached infants have been observed to be more rejecting, averse to physical contact, and more prone to interact with their child in an angry, over-stimulating, and intrusive manner. Insensitive mothers have also been characterised by their inability to establish synchronised interactions, as well as their unpredictability, un-involvement, and inconsistent patterns of responsiveness (Cassidy & Shaver, 1999; Isabella & Belsky, 1991; Karavasilis, Doyle, & Markiewicz, 2003).

Contributing to the development of attachment disorganisation (D) – a category referring to the absence of an organised strategy to assuage distress induced by separation-reunion sequences (van Ijzendoorn et al., 1999) - are caregiving patterns characterised by parental frightening behaviour including severe disruptive affective communication, hostility/intrusiveness, and role-reversal (i.e. parentification) with the infant (Lyons-Ruth, 1996). However, these more extreme manifestations of insensitive parenting are more likely to be present in families at high-social risk (Cicchetti et al., 2000). Also, it is in high risk samples where greater prevalence of (D) has been reported (van Ijzendoorn et al., 1999; Carlson, Cicchetti, Barnett, & Braunwald, 1989), and the

links between infants' insecurity and behavioural problems in childhood are most marked (Loeber & Farrington, 2001; Goldberg, 2002; Greenberg et al., 1997).

Attachment security in infants and toddlers has been related to a wide range of positive outcomes including increased compliance, cooperativeness, effective emotional regulation, and harmonious problem solving. Insecurity early in life, on the other hand, has been associated with increased displays of anger, explosive acting out, excessive dependency, and/or withdrawn behaviour (Greenberg, 1999; Frankel & Bates, 1990; Main, Kaplan, & Cassidy, 1985; Matas, Arend, & Sroufe, 1978). Furthermore, the disorganised (D) pattern has been found as posing a greater risk for later psychopathology, including behavioural disorders (van Ijzendoorn, 2002; Goldberg, 2002; Lyons-Ruth & Jacobvitz, 1999).

An important note should be made regarding the research above. In spite of a consistent claim of the determinant role of (in)sensitivity in the establishment of (in)secure attachments or disorganisation, two main sources of evidence strongly challenge this view. As indicated by three meta-analytic reviews (Atkinson, Niccols, Paglia, Coolbear, Parker, Poulton, Guger, & Sitareneos, 2001; De Wolff & van Ijzendoorn, 1997; Goldsmith & Alansky, 1987), the effect sizes for the association between sensitivity and security are modest (i.e. r = .32, .24, and .27 respectively). In another meta-analysis of 13 studies examining the association between the (D) category and insensitivity, a significant but small effect size of r = .10 was obtained (van Ijzendoorn et al., 1999). Attachment intervention research has also confirmed the modest (causal) association between sensitivity and attachment (in)security (van Ijzendoorn et al., 1995). In short, these studies suggest the links are robust but modest/moderate in magnitude, and factors in addition to sensitivity also influence whether an infant develops a secure, insecure or disorganised attachment (Atkinson, Paglia, Coolbear, Niccols, Parker, & Guger, 2000; van Ijzendoorn et al., 1995).

3.4.1.2. More than just sensitivity? - Parenting styles and the promotion of attachments

In light of the modest associations between sensitivity and children's attachment, researchers have posited whether other aspects of parenting such as behavioural dimensions of control have increased relevance for the attachment relationship (De Wolff & van Ijzendoorn, 1997; Bretherton, Golby, & Cho, 1997). This possibility has

been the focus of research addressing the link between parenting styles and attachment. Although there are still relatively few studies addressing this topic (Schneider-Rosen & Rothbaum, 1993), main findings have been reported for early childhood (i.e. toddlers and/or pre-school) (e.g. Achermann, Dinneen, & Stevenson-Hinde, 1991; Stevenson-Hinde & Shouldice, 1995) and only recently for middle childhood and adolescence. In short, this later group of findings indicate that a) there is a positive association between authoritative parenting (i.e. ratings of warm involvement, psychological autonomy granting, and behavioural monitoring) and secure attachment, whereas negligent parenting (i.e. low scores on all three dimensions) predicts insecure (avoidant) attachment (Karavasilis et al., 2003); b) mothers who have been rated as exercising high levels of negative control (i.e. ineffective discipline by means of harsh punishment and ignoring) have less securely attached children who also exhibit higher levels of problem behaviour (Bosmans, Braet, van Leeuwen, & Beyers, 2006); and c) child and parent perceptions of a more secure attachment relationship are positively associated with reports of closer parental monitoring and of child cooperation in monitoring situations (Kerns et al., 2001).

As suggested by the above findings, parenting styles characterised by aspects of responsiveness and effective control skills contribute to the development of secure attachments. These authoritative qualities of parent behaviour, which closely resemble the type of sensitive care believed to foster attachment security, have also been consistently found to promote a healthy psychological, academic and behavioural adjustment in children. In short, main outcomes indicate that parenting characterised by sensitivity, positive affect, cooperativeness/involvement, and gentle forms of control (i.e. autonomy-granting, non-imperative and/or coercive) are associated with higher self-esteem, sense of competence, emotion regulation, child compliance, intellectual attainment, enthusiasm, cooperative behaviour, and emotional understanding and communication, (Parpal & Maccoby, 1985; Dowdney et al., 1985; Gardner, 1994; Dix, 1991; Biringen, 2000; Kochanska & Murray, 2000; Moss, Rousseau, Parent, St-Laurent, & Saintonge, 1998). In contrast negligent and/or authoritarian parenting styles have been linked to poorer outcomes in these areas (Baumrind, 1971; 1991; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Maccoby & Martin, 1983; Parish & McCluskey, 1992; Steinberg, Darling, Fletcher, Brown, & Dornbusch, 1995). Similarities have also been noted between outcomes of this research and the

developmental trajectories of (in)securely attached children (e.g. Goldberg, 1991; Rice, 1990).

The research on parenting styles and child outcome is extensive and a full review does not serve the purpose of the present study. Instead, the focus lies on the association between conduct problems in children and attachment-related and social learning based aspects of parent behaviour as previously described (e.g. sensitivity and control). Presented next is a brief review of research on these associations.

3.4.1.3. The attachment perspective on the links between parental sensitivity, security and conduct problems

In attachment research, although a clear association has been established between sensitivity and security, evidence on the contribution of sensitive care and/or attachment relationships to conduct problems is less consistent (McCartney, Owen, Booth, Clarke-Stewart, & Vandell, 2004). This evidence particularly concerns the association between insecurity and psychosocial problems rather than focusing exclusively on the link between sensitivity and problem behaviour. Mixed findings have been reported depending on the type of samples studied. Overall, no significant associations have been found between insecurity and externalising problems in studies of low risk samples, whereas stronger effects have been found in studies of high risk families (Greenberg, 1999; Goldberg, 2002). A well-known example is The Minnesota Parent-Child Project longitudinal study of deprived, young and single mothers and their children, who were followed from birth to adolescence (Erickson, Sroufe, & Egeland, 1985). In follow-up assessments at pre-school, elementary school, and preadolescent periods, these high risk children were not only more likely to develop insecure attachments to their mothers comparative to their middle-class counterparts, but were also more likely to have poor peer relations, as well as depression and aggression symptoms (Erickson et al., 1985; Sroufe, Egeland, & Kreutzer, 1990; Urban, Carlson, Egeland, & Sroufe, 1991). More recently, using a large sample of 1,364 children from the NICHD Early Child Care prospective study, McCartney et al (2004) showed that at 24 months mother-child attachment security assessed via naturalistic observations at home (i.e. Q-set) negatively predicted maternal ratings of externalising problems at age 3 years. A counterintuitive finding in this study however, was the lack of association between disorganisation and behaviour problems. This is in contrast with several

studies attesting for this association (e.g. Carlson, 1998; Lyons-Ruth, 1996; van Ijzendoorn et al., 1999).

To explain the connection between attachment and problem behaviour, several models have been proposed (van Ijzendoorn, 2002). Most influential has been the model by Greenberg et al (1993). The authors emphasise three complementary processes through which early attachment relationships lead to later externalisation. In the first process, "internal working models" (IWM) are thought to mediate this connection. That is, the child's insecure representations of relationships may result in attribution bias that in turn lead to aggression. This is supported by research showing that in comparison to their insecurely attached counterparts, securely attached children are more likely to express "positive causal attributions and expectations" (Cassidy, Kirsch, Scolton, & Parke, 1996). A second process concerns the role of attachment quality in promoting readiness for socialisation. Children with a past history of warm and sensitive care, are more likely to identify and comply with their parents. In support of this is a large body of research on the role of parenting in the socialisation process (see below). Within this perspective, evidence attests for the contribution of attachment-promoting parental behaviours (e.g. responsiveness) to the early development of self-regulation at the internal (i.e. conscience) and external (i.e. compliance) levels (e.g. Parpal & Maccoby, 1985; Kochanska, 1997). A third process refers to the extent to which contributing to conduct disorders later in life are early manifestations of disruptive behaviour (e.g. tantrums) which in turn, may constitute attachment-oriented strategies for gaining the attention and proximity of unresponsive caregivers or establishing order and predictability in disorganised parent-child attachment relationships. This may be reflected in the extent to which children classified as presenting with a controlling attachment pattern, a category that corresponds to the developmental equivalent of disorganised attachment in older children (more than 2 years), attempt to control their interactions with their parents through punitive or rejecting behaviours (van Ijzendoorn et al., 1999). These controlling behaviours may then lead to the coercive and non-sensitive parenting that is characteristic of early conduct problems (DeKlyen & Speltz, 2001).

Notwithstanding the heuristic value of Greenberg et al's model (1993), research providing empirical support for the role of attachment in the aetiology, prediction, and/or stability of behaviour problems is still limited (Speltz et al., 1999). Although

existing evidence (see above) suggests that the quality of attachment relationships may contribute to this child outcome, the nature of this link remains unclear. Overall, studies associating insecurity, disorganisation and problem behaviour have been correlational in nature, not allowing for causality to be established. Also, the overall modest associations found suggest that in explaining the development of conduct problems, attachment has to be studied in the context of multiple child and environmental risk factors. Furthermore, the lack of instrumentation to assess attachment quality in school-age children prevents an examination of the extent to which the parent-child attachment relationship contributes to problem behaviour during a developmental period in which parental control strategies play a key role in managing this child outcome (DeKlyen & Speltz, 2001). Thus, in older children it is not known whether parent behaviours that promote secure attachment (e.g. sensitivity) and parental discipline practices that promote sound behaviour management (e.g. clear commands) act jointly or separately in predicting child problem behaviour.

3.4.1.4. The socialisation perspective on the association between parental sensitivity, mutually responsive parent-child interactions and conduct problems

In their review of the literature on child compliance, Maccoby and Martin (1983) concluded that of the main factors associated with this outcome are sensitive parenting and the establishment of a "system of reciprocity" within the dyad. In their formulation, parental sensitivity not only refers to responsiveness and attunement to the child's needs but also includes behaviours that promote or facilitate positive exchanges such as initiating play, commenting on the child's activities, and promotion of autonomy Characterising a mutually responsive/reciprocal relationship is the dyad's ability to share affection and trust, be receptive to each other's needs, and be mutually committed/compelled to cooperate with and respond to one another (Martin, 1981; Maccoby & Martin, 1983). In response to a history of sensitive parenting and mutual responsiveness, the child's willingness to accept parental values and comply with demands for socialised behaviour increases. In turn, this eagerness to cooperate with the parent and internalise his/her goals leads to a reduction in the use of parental pressure or control (Parpal & Maccoby, 1985).

Observational research on parent-child interaction has provided continuous support to Maccoby and Martin's (1983) formulation. One source of evidence refers to studies focusing on observations of parent-child interaction quality in the context of positive

activities (i.e. play) in the home and/or laboratory. Overall, this research indicates that higher levels of maternal availability, perspective-taking, warmth, ability to follow the child's lead, and responsiveness to the child's attempts to engage her in the play activity are inversely related with toddler non-compliance (Rocissano et al., 1987; Zahn-Waxler, Iannotti, Cummings, & Denham, 1990), and with pre-school behavioural problems (Parpal & Maccoby, 1985; Dunn & Kendrick, 1982; Clarke-Stewart, 1973). Furthermore, sensitive and playful parenting styles in toddlerhood have also been shown to predict later adjustment in the pre- and early school-age periods (Pettit & Bates, 1989, Harrist, Pettit, Dodge, & Bates, 1994).

Complementing the above findings are studies examining the quality of joint play activities at home in families of children with and without problem behaviour. For example, as shown by Gardner (1994) in comparison to their normal counterparts, mothers of conduct problem pre-schoolers were shown to be less involved in play, less responsive to questions and suggestions, displayed higher levels of negative affect (i.e. threatening, hitting, shouting and/or showing anger to their children), and issued higher proportions of insensitive control (i.e. requests issued in imperative or prohibitive form) and lower proportion of sensitive control (i.e. gentler requests or in question form). Furthermore, the amount of joint play has also been shown to contribute to the development of fewer conduct problems over and above a wide range of risk factors including frequency of negative parent-child interactions (Gardner et al., 2003).

Another source of evidence comes from longitudinal studies looking at the association between observed levels of mutual responsiveness (i.e. indices of mother-child cooperation and shared positive affect) and internalisation of maternal rules from toddlerhood to pre-school years. In short, these studies indicate that in various disciplinary contexts either at home or in the laboratory, dyads displaying a greater mutually responsive orientation interact less coercively and as a result children's internalisation of parental values and goals is stronger, extending from the toddler and pre-school periods to early school-age (Kochanska, 1997; Kochanska & Murray, 2000; Kochanska et al., 2005).

Overall, the evidence above points to a consistent association between attachment-related qualities of the parent-child relationship (e.g. sensitivity, mutuality) and problem behaviour in children. Furthermore, playful interactions provide a unique opportunity in

which to identify these positive aspects of the parent-child relationship. However, the research above is not only relatively limited in number, but is also mostly correlational (Gardner, 1992; Maccoby & Martin, 1983). This does not allow for investigation of a potential causal connection between attachment-related parenting and child behavioural problems. Only through conducting experimental interventions causality can be inferred and/or established.

3.4.1.5. Causal evidence for the link between attachment-related qualities of the parent-child relationship and conduct problems

As pointed out before, several parenting programmes have been developed and implemented in which parent-child play interactions constitute a core element of treatment strategy (Webster-Stratton, Hollinsworth, & Kolpacoff, 1989; Webster-Stratton & Hooven, 1998; Forehand & McMahon, 1981; Patterson & Reid, 1973). A key assumption is that by teaching parents to adopt a more responsive child-centred attitude during play interactions with their children, the quality of their relationship can be improved. Through the establishment of more harmonious, affectionate and reciprocal relationships during a day-to-day activity such as play, the positive emotional bond between parent and child is promoted/reinforced and problem behaviour is reduced. The evidence for the effectiveness of these interventions is now well established (Kazdin, 2005; Lundhal et al., 2006). Furthermore, this research has greatly contributed to our understanding of the potential causal processes related to clinical change with parent management practices consistently emerging as causally related to child antisocial behaviour (Patterson et al., 1992; Gardner, 1992; Kazdin, 1997).

Notwithstanding the major advantages presented by intervention studies, some notes of caution also deserve mention. The first issue regards the inference of causality often made in the context of this research. As noted by Hinshaw (2002b), in intervention studies using randomised controlled trials (RCT's), whereas the attribution of causal influence of a treatment condition (e.g. parent training) on an outcome of interest (e.g. reduction in child problem behaviour) may be appropriate, the same reasoning does not necessarily apply when focusing on a mediator variable. In other words, it is less certain if studies of mediating mechanisms within RCT's can demonstrate causality as participants are randomised to the whole intervention but not to the mediator variable. Given that mediators are by definition variables occurring after random assignment, analyses of mediating processes will necessarily be subject to bias, which necessarily

makes causality harder to impute (Hinshaw, 2002b; Beauchaine et al., 2005). When applying this consideration to the present study, if changes in parenting (e.g. increase in sensitivity) are found to mediate changes in child outcome (e.g. reduction in problem behaviour), this would not allow for parenting to be established as definitely causal in nature but rather as indicative of an important process contributing to treatment effectiveness.

A second issue is the manner in which change in parenting is evaluated in experimental studies. In most of this research, the effectiveness of interventions are evaluated in terms of changes in a whole set of parenting behaviours combining elements such as praise, responsiveness, and effective and/or consistent discipline. A major drawback of this approach is that it precludes an examination of which specific variables and/or group of variables played a more crucial role in changing parenting quality and/or child behaviour (Gardner, 1992; Scott, 2002). Few studies have addressed this issue, including the one conducted by Martinez and Forgatch (2001), and a more recent study conducted by Gardner and colleagues (2006a). In the former study, a preventive intervention was conducted with an at risk sample of divorcing mothers and their school-age sons. In examining the effects of the intervention, the authors aimed at establishing the unique and cumulative contributions of coercive discipline (i.e. negative reinforcement, negative reciprocity, and inept discipline) and positive parenting (i.e. positive involvement, skills encouragement, problem solving, and monitoring) to child non-compliance. They showed that both coercive discipline and positive parenting accounted for significant unique variance in change in non-compliance. Thus, in a social learning based parenting programme, integration of parenting dimensions stemming from a responsive/relational perspective (e.g. positive involvement) proved fruitful in increasing intervention benefits through its unique contribution to reduction of child non-compliance.

In the intervention study by Gardner and colleagues (2006a), a sample of 120 low-income two-year old boys was used to investigate the extent to which changes in proactive and positive parenting (i.e. constructive suggestions, positive discipline, pre-emptive strategies, and praise) contribute to change in child disruptive behaviour independently of effects of negative parenting (i.e. criticisms, threats, and yelling). Although proactive and positive parenting was only part of the intervention's focus, the authors found that this predicted outcome over time (i.e. change in child destructive

behaviour from age 2 to 3), and that this effect was independent of the predictive effects of negative parenting[5]. This investigation greatly extends findings of previous longitudinal and intervention studies (Gardner et al., 1999; 2003; Gardner, Burton, & Klimes, 2006b) in disentangling the joint vs. independent contributions of positive and negative parenting styles in the context of a preventive intervention offered to an at-risk population of parents and their toddlers.

However, both intervention studies above present some key limitations. Martinez and Forgatch's (2001) study is limited given that 1) it refers to a predominantly White, educated sample, and is restricted to boys; 2) uses observational parent-child assessments conducted in the laboratory only; 3) includes assessment of parent-child interactions using structured tasks more focused on conflict and teaching situations rather than play (i.e. positive activities); and 4) uses a broad definition of positive parenting placing greater emphasis on aspects of family management techniques (e.g. problem solving, monitoring) than on emotional and/or relational aspects of parent-child relationship quality (e.g. sensitivity, positive affectivity, mutual responsiveness). In Gardner et al's (2006a) study, limitations included 1) a sample restricted to boys, 2) having both a relatively small sample size and a brief follow-up period, 3) using only report measures of child outcome, and 4) adopting a definition of positive parenting more focused on positive disciplinary strategies (e.g. rewards, bargains) and event-based measures of parental positive attending (i.e. praise) rather than considering more encompassing categories to capture emotional, dyadic, and/or attachment-based aspects of parent-child relationship quality.

As discussed previously the present study aims at providing definitions of three school-age behavioural indices of attachment-related parenting – sensitive responding, positive affect, and mutuality. These dimensions are not only consistent with core conceptualisations of Attachment Theory but are also theoretically differentiated from each other rather than agglomerated in an overall category. In the context of a social learning based preventive programme, a main question addressed by this study is whether the teaching of specific behavioural skills of positive reinforcement for compliance/pro-social behaviour (e.g. praising, use of consistent and positive discipline) leads to changes in attachment-related qualities of the parent-child

[5]Although proactive parenting did not significantly mediate treatment effects, results suggested a trend in that direction. Thus, this may indicate a generalised effect of positive parenting rather than a specific treatment effect (Gardner et al., 2006a).

relationship i.e. the (re)establishment of the positive emotional bond between parent and child through increased and consistent sensitive responding, positive affectivity and dyadic reciprocity. This constitutes an empirical question exploring the extent to which social learning and attachment-based definitions of parenting are conceptually similar/interdependent and whether both theorisations are complementary in their predictions of parental influence on child outcome. The contrasting of the social learning and attachment perspectives has not been addressed by extant intervention studies including Martinez and Forgatch (2001) and Gardner et al's (2006a) investigations.

3.4.2. Correlational and causal associations between social learning based control/disciplinary parenting and child outcome

Extensive research has examined links between control/disciplinary parenting practices and child problem behaviour; much of this research seeks to examine what may be particular to control/discipline in predicting child behaviour problems (Kazdin, 1996; Burke, Loeber, & Birkmaher, 2002). Prospective studies conducted in different settings and with a variety of samples ranging from toddler, pre-school to early school years have shown that inconsistent and harsh discipline, especially involving physical punishment, predicts later conduct problems (Dodge, 2000; Gardner, 1992; Campbell & Ewing, 1990; Richman, Stevenson, & Graham, 1982). Several studies have also indicated that families of antisocial children differ from their non-antisocial counterparts in the extent to which they issue more criticisms, commands, display more negative affect, and use harsh physical discipline and fewer control-plus-guidance strategies during control bids (Forehand, King, Peed, & Yoder, 1975; Belsky, Woodworth, & Crnic, 1996; Stouthamer-Loeber, Loeber, Farrington, Zhang, vanKammen, & Maguin, 1993).

Overall, this research indicates that impaired control techniques involve an authoritarian parenting style. This style is characterised by intrusiveness and negative affect. Also, the use of facilitative statements such as justifications, explanations, and suggestions is often non-existent or minimal (Gardner, 1987; 1994; Grusec & Goodnow, 1994).

Evidence on the causal connections between control practices and conduct problem has come from numerous intervention studies where several approaches to parent training have been adopted (Kazdin, 1987; 2005). Causality is inferred given that following

direct manipulation of parental disciplinary practices subsequent improvement in children's conduct problems takes place. However, and as mentioned above, in much of this research attribution of causality is based on analyses of mediating mechanisms which precludes the establishment of parenting as definitely causal in nature (Hinshaw, 2002b). Instead, what most of this research consistently shows is that a particular parenting variable (e.g. improvement in ineffective discipline) is found to account for variance (i.e. mediate) in children's behavioural changes following an intervention. In other words, better child externalisation outcomes are obtained when the intervention also exerts its effects on the mediator variable (i.e. parenting). In light of this, the evidence indicates that parenting is an important process related to change in child outcome rather than a primary cause of it (Beauchaine et al., 2005; Patterson et al., 1992).

Outcomes from evidenced-based parenting interventions include a) post-treatment and follow-up increases in parental attending, rewarding and contingent attention and improved child compliance after training in effective discipline using didactic instruction, modelling and role-play in a controlled learning environment (i.e. clinic) (Forehand & McMahon, 1981; Baum & Forehand, 1981; McMahon, 1994); b) enduring improvements in interactional styles (i.e. decreased criticism and sarcasm and increased physical proximity) and children's behaviour (i.e. from clinical conduct problem to normative levels of behaviour) following training in child-directed interaction (i.e. promoting the child's lead in play) and parent-directed interaction (i.e. emphasis on parental consistency and the setting of clear rules of behaviour) (Neary & Eyberg, 2002; Brestan, Eyberg, Boggs, & Algina, 1997; McNeil, Eyberg, Eisenstadt, Newcomb, & Funderburk, 1991); c) post-treatment and follow-up decreases in criticism, intrusive (e.g. chain commands) and harsh discipline and decreases in children's behavioural problems after training in positive and effective management skills (e.g. time-out) using video-modelling techniques (Webster-Stratton, 1994b; Webster-Stratton et al., 1989); and d) enduring reductions in ineffective parenting practices (e.g. laxness, verbosity and over-reactivity) and levels of child disruptive behaviour following individual or group training in managing misbehaviour (e.g. ignoring) and fostering the child's competence and development (e.g. quality time), administered to parents according to their level of risk, need and/or preference (Sanders & Markie-Dadds, 1996; Bor, Sanders, & Markie-Dadds, 2002).

Overall, the evidence above provides strong support for the causal link between parent management practices and child problem behaviour. It shows that social learning based disciplinary skills are malleable and that parent training benefits child's conduct problems (Webster-Stratton & Hammond, 1997; Kazdin, 1987; Patterson & Forgatch, 1995). However, this research does not consider the extent to which other dimensions of parenting can also be manipulated and shown to impact on child outcome. As discussed earlier, dimensions of sensitivity have been successfully manipulated in behaviourally based interventions and shown to reduce levels of infant disorganised attachment, a known risk factor for later externalisation (Bakermans-Kranenburg et al., 2003; Juffer et al., 2005). It is therefore clear that to reduce existing levels of problem behaviour or reduce the risk of later behavioural maladjustment, social learning based approaches to intervention may benefit from targeting changes in sensitive parenting as well as management practices.

3.5. Attachment and social learning perspectives of parent-child interaction – the testing of convergences/divergences between the two models

3.5.1. Attachment and Social Learning Theory - Key points of divergence and convergence

As discussed above, Attachment and Social Learning Theory models of parenting differ conceptually and methodologically. The first key point of divergence concerns the differential emphasis on patterns of sensitive care vs. management practices as main parenting domains involved in the promotion of optimal outcomes in children (i.e. attachment security vs. behavioural adjustment) (Greenberg & Speltz, 1988). In other words, underlying both theories are contrasting definitions of effective parenting and differential models of influence linking parenting to child outcomes. The attachment model accentuates the role of sensitivity in the promotion of a secure parent-child relationship whereas the social learning perspective emphasises the provision of structure and adequate limit setting for managing misbehaviour (Cassidy & Shaver, 1999; Gardner, 1992).

Second, both parenting models have adopted different levels of analysis. Crucial to the attachment model, is the assessment of relationship quality and this is conducted by adopting a macro-analytical level of analysis (e.g. global assessment of sensitive patterns of interaction). Essential to the social learning model are assessments of specified units of parental control behaviours conducted using micro-analytical

measurement approaches (e.g. frequency counts of single behavioural events) (O'Connor, 2002).

A third key point of divergence between both perspectives refers to the preferential focus on mental representations and emotionality vs. the emphasis on external rather than internal influences upon the individual (Durkin, 1995). That is, a central feature of the attachment model is the processes linking the parent-child positive emotional bond to the development of secure cognitive representations of attachment relationships and the extent to which these "internal working models" (IWM) promote the child's socio-emotional adaptation throughout life. From a social learning perspective, the development of pro-social adaptation is mainly dependent on environmental contingencies guiding actual behaviour. The learning of future behaviour is determined by the extent to which parents reward, reinforce and/or punish their child's present actions. In this model, the child's emotional and cognitive capacity to give meaning to his/her experiences and use this information to co-construct his/her relationships with others is therefore dismissed (Bretherton, 2005; Wallace, 1993).

These divergences have contributed to the overall lack of integration of both perspectives (Greenberg et al., 1993). However, effective parenting not only involves sound behaviour management but also integrates attachment-promoting behaviours of responsiveness, positive affectivity and reciprocity (Rutter & O'Connor, 1999). Furthermore, children are exposed to both attachment processes and parent management practices early in life, and their behaviour is therefore impacted by both (Kerns et al., 2001). In light of this, it is striking how long these lines of study have gone on being disconnected from each other. Studying both parenting models in isolation has prevented the examination of the interconnections between them and the extent to which they uniquely or cumulatively predict child outcome. In other words, it is not known which of the key features of the parent-child relationship (i.e. discipline or attachment) carry the higher risk or protective power for later psychopathology or adaptive socio-emotional development. For the testing of competing hypotheses regarding parent-child effects, the need for evidence on the connection between both parenting components and of their impact on the child's socio-emotional and behavioural adaptation is therefore pressing (Rutter & O'Connor, 1999).

Several points of convergence between both perspectives have been suggested. First, researchers agree that it is the combination of attachment-related and social learning based parenting qualities rather than one specific parenting dimension that is most beneficial for the child's healthy socio-emotional and behavioural adjustment (Karavasilis et al., 2003). Considerable work has been conducted showing that parenting styles that integrate aspects of sensitivity to the child's needs, warmth and involvement, and autonomy-granting through non-coercive discipline and age-appropriate limit setting and monitoring, not only promote secure attachment relationships but are also effective in preventing the early development of conduct problems (Baumrind, 1991; Maccoby & Martin, 1983; Greenberg et al., 1993). Furthermore, besides exhibiting disruptive behaviour, conduct problem children often suffer from socio-emotional maladjustment (Carr, 1999). These problems often relate to the type of interactions these children experience with their parents. The quality of these relationships is often characterised by inept disciplinary parenting practices (a key domain in Social Learning Theory) and serious disruption and/or breakdown of the dyad's emotional bond (the province of Attachment Theory). In light of this, both attachment and social learning parenting models provide a theoretical framework in which to examine the various aspects of parenting that characterise maladaptive patterns of parent-child interaction and how these variables combine to affect children's development (Sutton, 2001; Webster-Stratton & Hooven, 1998; Kerns et al., 2001).

Second, according to each parenting perspective the dyad's ability to negotiate and to mutually cooperate with one another plays a crucial role in promoting a healthy parent-child relationship. From a social learning perspective, the parent's ability to negotiate conflicting goals with his/her child serves to avoid power struggles thus preventing coercive cycles of interaction taking place within the dyad. In turn, child problem behaviour which often arises from these coercive exchanges is reduced/extinguished. Similarly, from an attachment perspective relationships that lack negotiation are characterised by breakdowns in joint communication, which is vital for the emergence of a "goal-corrected partnership". This partnership promotes the development of secure attachments where the dyad builds on each other's input to meet their needs and/or goals. For the dyad to behave mutually, fluid communication to negotiate and to conduct teamwork is essential (Patterson et al., 1992; Greenberg & Speltz, 1988; Lieberman & Zeanah, 1999; Forman & Kochanska, 2001).

Third, using key theoretical assumptions from each perspective, comparable explanations for child conduct problems can be drawn. Within the social learning perspective child problem behaviour is viewed as a strategy the child uses to obtain parental attention. This model uses the principle of positive reinforcement to describe this phenomenon. Comparatively, from an attachment perspective the child's misconduct may serve as a strategy for eliciting parental proximity, thus maintaining attachment to an unresponsive parent (Webster-Stratton & Herbert, 1996; Greenberg et al., 1997).

Fourth, both models also allow for complementary views to be drawn regarding the processes through which the child's healthy socio-emotional and behavioural adjustment can be successfully promoted. The social learning conceptualisation poses that child difficult behaviour can be positively reinforced, thus increasing in frequency and/or intensity, or it can be penalised and eventually extinguished. Equally, reinforcement processes can also be involved in the emergence, maintenance and/or reduction/extinction of children's attachment behaviours. Where parents are responsive and affectionate toward their children, the child's social responsiveness and positive affect towards them is likely to increase whereas parents who negatively agitate or threaten their children may lead the child to avoid parental proximity, thus weakening the child's attachment to his/her caregivers (Sutton, 2001).

In light of the issues above, it is clear that both attachment and social learning theories provide complementary interpretations of the processes linking effective parenting to child outcome. This has led to the recognition of the need to integrate both perspectives, investigating the links between them and how they may jointly explain children's socio-emotional development (Speltz, 1990; Greenberg & Speltz, 1988). However, most of these efforts at integration have been limited to theoretical considerations rather than empirical testing of the level of interrelatedness between both parenting perspectives (DeKlyen & Speltz, 2001). To date, very few studies have examined the extent to which attachment and social learning theories converge and/or diverge from one another (Waters, Posada, Crowell, & Lay, 1993). This issue was addressed by Speltz et al (1995) in their study involving a clinical sample of oppositional pre-school boys and controls (ages between 3.5 and 5.5 years). The contribution of attachment and social learning parenting conceptualisations to disruptive behaviour was investigated by comparing a social learning based micro-analytical measure of discrete behaviours (i.e.

DPICS) with an attachment-based global assessment of parent-child interaction patterns (i.e. separation-reunion procedures). The authors reported two main findings. First, there was an overall lack of association between micro-behavioural and attachment variables. Second, attachment measures offered better concurrent discrimination of clinic-referred and control group children than micro-behavioural variables. In short, this study showed that both conceptualisations of parenting are not only independent from one another but that they contribute unique information to the prediction of oppositional defiant disorder clinic status. More recently, investigation of the interrelatedness between both parenting models was conducted by Kerns et al (2001) in their study involving children in late middle childhood (mean age of 9.12 years) and early adolescence (mean age of 12.08 years) from a predominantly White, middle-class sample. Using report-based measures of attachment security (i.e. the Security Scale) and telephone interview assessments of parental monitoring, the authors found evidence for the association between monitoring and perceptions of attachment security, with effects being particularly strong in early adolescence. In summary, this study showed that affecting attachment security in middle childhood/adolescence are aspects of parenting not only central to Attachment Theory (i.e. responsiveness) but also pertaining to the social learning model (i.e. monitoring/supervision).

3.5.2. Testing the convergence/divergence between Attachment and Social Learning Theory

A limitation of the above studies is that by using a cross-sectional design, the extent to which the association between both parenting models is mediated by other factors remains unknown (Greenberg et al., 1993; Speltz et al., 1999a). Both attachment and social learning based variables share a variety of correlates (e.g. child compliance) and these can possibly explain the reported correlations between both parenting models. Furthermore, attachment variables (e.g. sensitivity) may impact child outcome (e.g. pro-social behaviour) via their effect on social learning based parenting (e.g. control practices) (Kerns et al., 2001). To address the question of the convergence and/or divergence between the two parenting perspectives in which the causal direction of influence among the constructs is directly tested, an intervention design is required. In other words, using an intervention design it is possible to determine the extent to which experimental manipulation of micro-behavioural variables (e.g. knowledge of social learning based control techniques) leads to changes in attachment-based qualities of the parent-child relationship (e.g. sensitivity). This would constitute evidence on the

potential causal connection between both parenting models. Furthermore, evidence for the potential causal link between these aspects of parenting and child outcome can also be obtained should changes in parenting (according to both theorisations) result in changes in the child's behaviour. To date, no study has addressed this.

In the present study, testing of the extent to which attachment and social learning based models of parenting are interrelated was conducted at the cross-sectional and experimental levels using a randomised control trial. Both tests correspond to main research questions of this study, which are described below with a summary of other key aims of this investigation.

3.6. Summary of key aims and research questions of the study

The following points were emphasised in the preceding sections on conceptual, methodological and intervention considerations concerning attachment and social learning based models of parenting. First, there is a present lack of school-age attachment-based measures of parenting. Thus, a first aim of the present study is to develop and validate and observational measure of attachment-related parenting that can be used to assess parent-child interaction in the context of everyday tasks at home (e.g. play). Second, the extent to which attachment and social learning based models of parenting are associated is still mostly unknown. Therefore, the second aim of this study is to investigate the concurrent association between two observational measures of attachment-related parenting and social learning based parenting. Third, although both attachment and social learning based parenting variables have been found to associate with conduct problems in children, studies reporting these associations often treat these variables as independent from one another, rely on one particular approach to measurement, and do not consider other child outcomes also shown to promote behavioural adjustment. A third aim of this study is to examine the extent to which both attachment and social learning based parenting measures comparatively associate with various outcomes in children, ranging from conduct problems, positive affect, social responsiveness to attention on task. A comparison of observational and report (interview and questionnaire ratings) methods using different informants (observer, parent, teacher) will be conducted to examine these associations. Fourth, it is not known at present whether representations of attachment in children are associated with objective measures of parenting and in contexts that do not involve separation-reunion

sequences. A fourth aim concerns the unique opportunity provided by this study to investigate the connection between observed parental behaviour (using both attachment and social learning perspectives) during play interactions at home, and cognitive representations of parent-child attachment relationships. Fifth, in the few studies examining the association between attachment and social learning variables, a cross-sectional design was used. Thus, an experimental and more powerful test of this association has not been provided yet. The fifth aim of this study is to test the level of convergence between social learning and attachment-based parenting models using an intervention design. The extent to which a social learning based parenting programme is effective in producing change in attachment-based dimensions of parenting (e.g. sensitivity) will be indicative of the level of convergence between both approaches.

In summary, the research questions of this study are:

1) To what extent there is conceptual overlap between attachment and social learning based models of parenting?
2) To what extent do attachment and social learning based measures of parenting independently predict several indices of child disruptiveness (i.e. as measured via observation, interview, and questionnaire) and child adaptive behaviour (i.e. observational and questionnaire rating assessments)?
3) Are observations of parental behaviour (conceptualised in attachment and social learning terms) uniquely predictive of the child's cognitive representations of attachment?
4) Can a parenting programme based on social learning principles be effective in changing (i.e. improving) attachment-related qualities of the parent-child relationship?

Secondary research questions are: 1) whether there is comparable variation in observed attachment and social learning based parenting according to demographic characteristics, 2) whether these sample characteristics moderate the effectiveness of the intervention, and 3) whether the intervention's effect on child outcome (e.g. reduction in conduct problems) is mediated by its impact on parenting (e.g. improvements in sensitivity).

Having stated the aims and research questions of the study, a description of the main phases involved in the development of the new observational measure of attachment-related parenting is presented, followed by the chapters on methods, results, and discussion.

CHAPTER 4. Direct observation of parent-child interaction based on Attachment Theory

4.1. The use of direct observation methodologies – Main considerations

4.1.1. Advantages and disadvantages of using direct observation as a measurement strategy

In this study, assessment of parent-child interaction was conducted using direct observation. Observations have constituted a powerful assessment strategy in developmental and intervention research on the association between parenting practices and child problem behaviour (Aspland & Gardner, 2003; Kazdin, 2003; Dowdney et al., 1984; Patterson, 1982; Scott et al., 2005a; August, Realmuto, Hektner, & Bloomquist, 2001; Sanders, 1999; Forehand & McMahon, 1981).

Only observations allow detailed measurement of the quality of parent-child interactions (Gardner, 1997). They enable assessment of a wide range of behaviours, from global aspects of parent-child relationship quality (e.g. responsiveness, affection), to quantifiable and specified behaviours (e.g. commands, questions), to behavioural contingencies (e.g. acknowledgement following compliance to previous command) (Aspland & Gardner, 2003; Dishion et al., 1996). Therefore, observational techniques make it possible to investigate both a) emotion-based dynamic, reciprocal, transactional processes emphasised by attachment research and b) the sequential ordering of specified control behaviours emphasised by social learning models of parent-child interaction (Mills et al., 1996). Thus, direct observation was the method of choice to use in this study as it allows detailed measurement of attachment-related qualities of the parent-child relationship (e.g. sensitivity) and of social learning based disciplinary practices (e.g. commands). This body of data would then allow the comparison between both parenting models.

Additional advantages presented by observational methods include a) offering greater objectivity compared with report measures as target behaviours are consistently and reliably defined by an independent observer rather than parents, thus unlikely to be influenced by systematic biases associated with parents' judgements, expectations, and/or mood (Aspland & Gardner, 2003; Kerig & Lindhal, 2001); b) capturing behavioural and relational qualities of the interaction that both parents and young children may find particularly difficult to describe or quantify if using report methods

such as questionnaires or interviews (e.g. level of parental warmth towards them, how many times they were praised following compliance) (Lindhal & Malik, 2001; Maccoby & Martin, 1983); c) sampling behaviours directly in the situation of interest, such as the home or in the clinic, and with the type of sample required (i.e. clinical, normative or both). Being able to choose the location of the observation as well as the participants to be studied greatly influences the generalisability of findings (i.e. whether studying at risk, normative populations or both, observation of behaviour at home provides samples of behaviour similar to everyday life compared to observations conducted in artificial settings such as the clinic) (Gardner, 1997); and d) providing video-recorded data, which allows repeated analysis of behaviours. This is particularly helpful in identifying and/or re-defining behaviours that prove difficult to code. Video-recorded behaviour also allows for multi-coding between different raters, a useful strategy to prevent observer drift and improve reliability (Aspland, 2001).

Observational measures have also been found to be particularly sensitive to change in both parent and child behaviour following parenting interventions. They are more predictive of antisocial behaviour when compared to parent and teacher ratings, enabling to acquire higher effect sizes (Scott, 2002; Webster-Stratton, 2002; Scott et al., 2001a; Kazdin, 1997). Therefore, this technique is invaluable for planning interventions and evaluating outcomes, as well as examining research questions about mechanisms involved in family interactions (Aspland & Gardner, 2003).

Some notes of caution are also required when using observational methods, namely a) the difficulties involved in obtaining observer reliability and valid data, both factors potentially affecting generalisability of outcomes (Dowdney, 1987); b) how time-consuming they are in terms of defining key concepts and behaviours to be coded, the process of data collection and the coding itself; c) the potential effects of observation procedures on participants (e.g. being aware of the camera may alter natural parental behaviour); d) the observer's impact during the coding of observations (e.g. the coder's cultural background may affect interpretation of behaviours); and e) the adequacy of the setting and task(s) observed (e.g. are the tasks appropriate to elicit behaviours of interest?) (Aspland, 2001; Harris et al., 2003).

In this study, main strategies to overcome some of the above difficulties, included a) involvement of different researchers in defining key behaviours to be coded, data collection and coding in order to reduce time constraints, b) conduction of video-recording of parent-child interactions with minimum levels of intrusion, c) use of manuals and objective coding criteria to minimise coders' potential personal biases, and d) selection of three tasks to be observed at home (i.e. free-play; structured play and tidy up) designed to elicit behaviours of interest. More detailed descriptions of these key strategies are provided in the Methods section below (chapter 5).

4.1.2. Direct observation as part of a multi-method approach to measurement

Notwithstanding the several advantages of using direct observation in assessing behavioural and relational qualities of the parent-child relationship, a consideration of other measurement techniques is equally important.

In the past there has been concern regarding the use of self-report methods, namely interviews, given the frequent inaccuracy of these techniques when compared to objective/independent records. However, improvements in interview methodology have not only taken place but interview data also provides information not possible to obtain through more objective assessments (i.e. observations) (Maccoby & Martin, 1983; Quinton, Rutter, & Rowlands, 1976). Interviews assess parent and child behaviour over a long period of time and over a number of settings in and/or out of the home. Thus, compared to observations which provide samples of behaviour occurring in a relatively short period of time, interviews provide information on enduring characteristics of parent and/or child behaviour (e.g. autonomous vs. dependent behavioural styles) (Lytton, 1973). Knowledge on behaviours that either occur infrequently or that are unlikely to be publicly displayed (e.g. tantrums at bed time) is also obtained. Additionally, measurement of parental attitudes, expectations, knowledge of child developmental issues, and parenting in relation to other aspects of family life (e.g. marital discord) is also enabled (Hinde, 1980).

A multi-method measurement approach has become the most reliable and credible methodological strategy adopted in studies of parent-child interaction (Dishion et al., 1996; O'Connor, 2002). Information from multiple sources and combination of various assessment methods ranging from direct observation, to interviews, to parent and

teacher questionnaire ratings, constitutes a powerful strategy for obtaining the best quality data in the measurement of complex constructs such as parenting (McMahon & Metzler, 1996; Patterson et al., 1992). The use of one particular assessment method raises the problem of mono-method bias, as each individual type of measure is susceptible to the influence of systematic errors as explained above. On the other hand, when using multiple methods researchers are faced with other challenges such as potential lack of convergence among different informants. This is particularly the case when comparing parent and observer reports, which often yield low if any correspondence (Kazdin, 2003; Arney, 2004). Although the use of multi-informant approaches creates substantial data-analytic challenges, each source provides unique and valuable information for understanding parenting effects on child behaviour (Dishion et al., 1996; McMahon & Metzler, 1996). Furthermore, adoption of a multi-method multi-informant approach to measurement is particularly valuable for construct validation purposes (Dishion et al., 1996; Patterson et al., 1992). In establishing the validity of a particular parenting construct, combination of measures allows investigation of the extent to which constructs are interrelated and at what level. Depending on their level of association, parenting constructs might be part of a similar underlying parenting style or correspond to distinct dimensions (Dishion et al., 1996; Kazdin, 2003).

In the present study a multi-method multi-informant measurement approach was adopted. Comparison between observational measures of parent-child interaction, reports of parent and child behaviour through parent interview, parent and teacher questionnaire ratings of child behaviour, and a doll-play measure of child attachment representation not only constituted a sound methodological strategy for the testing of hypotheses regarding parent and child effects but also in aiding the construct validation of the newly developed observational measure (i.e. the CARP).

4.1.3. Development of observational measures: key theoretical and methodological decisions

Three main sets of decisions involved in the development of observational instruments concern a) the dimensions of behaviour to be studied, b) the level of analysis employed, and c) the sampling methods used (Gardner, 1984; Dowdney, 1987).

4.1.3.1. Dimensions of behaviour

Selection of key dimensions of behaviour to be targeted for measurement by an observational instrument is dependent on the specific hypotheses under investigation (Aspland & Gardner, 2003). In studies of parent-child interaction, nurturance and discipline constitute two main dimensions that have been traditionally targeted for assessment (Locke & Prinz, 2002). Discipline measurement has been particularly emphasised by social learning researchers whose aim is to answer research questions about the control processes and contingencies of behaviour that promote and/or maintain coercive cycles of interaction (Patterson, 1986; Vuchinich, Bank, & Patterson, 1992; Dishion, Patterson, Stoolmiller, & Skinner, 1991). Within this approach, observational systems are developed in order to provide precise, minute-by-minute information about the frequency and/or pattern of control interactions (Reid, 1978; Patterson, 1982). Comparatively, measurement of nurturance dimensions has received the attention of socialisation and attachment researchers that acknowledge the relevance of nurturing behaviours in promoting the child's healthy development at the social, emotional and behavioural levels (Dowdney et al., 1984; Kochanska, 1997; Maccoby & Martin, 1983). Essentially used in these areas of research are measures that capture the emotional content of verbal and nonverbal exchanges and dyadic qualities of the parent-child relationship (Dunn & Kendrick, 1982; Dowdney et al., 1984; Gardner, 1994).

4.1.3.2. Level of analysis: macro and micro-analytical approaches

Following identification of behaviours of interest, consideration is taken of the level of analysis that should be adopted in order to interpret observational data. Observations provide large amounts of information with different levels of interpretation concerning the content (e.g. semantic content of verbalisations), relationship quality (e.g. sensitivity), behavioural frequencies (e.g. criticisms), and contingency sequences characterising parent-child interactions (Aspland & Gardner, 2003). Macro and micro-analytical levels of analysis constitute the two main approaches adopted in the breaking down of behavioural dimensions into more manageable units or coding categories (Lindhal & Malik, 2001). Depending on the level of inference involved in the definition of each category, these can either refer to a macro or a micro-level of analysis (Gardner, 1984). Micro-analytical categories focus on clearly specified overt behaviours that require no consideration of social context and/or participants' intentions. As less

inference is involved, these categories are viewed as less susceptible to bias (Aspland, 2001; Kerig & Lindhal, 2001). The designing of categories that require minimal inference has been a key aspect of social learning based measurement research (e.g. Patterson, 1979). In contrast, macro-analytical categories use descriptions of behaviour and/or interaction styles that take into account the complexity of contextual influences that are also an integral part of the dyad's relationship. Targeted for measurement are characteristics of the social context in which the parent-child relationship takes place such as their mutual style of interaction, the social and emotional quality of their behaviour, and the fluidity of their communicative styles (Mills et al., 1996). By considering the larger context of the interaction, the level of inference used by macro-analytical categories is necessarily higher compared with micro-analytical codes (Lindhal & Malik, 2001). Nonetheless, it is possible (and desirable) to minimise inference by providing clear operational definitions of targeted behaviours/dimensions (Gardner, 1984).

4.1.3.3. Sampling methods

Decisions about how to sample behaviour in time not only depend on the hypotheses under study but also on the practicalities involved in the use of observational methods including: recording time constraints, technology available, and feasibility of using such methods in natural settings (Gardner, 1984; Harris et al., 2003). In coding streams of behaviour, continuous and discontinuous methodologies have been adopted (Murphy, 1987). Thus, sampling decisions concern whether to capture continuous sequences of behaviour or section stream of events across the observation period (Dowdney et al., 1984). Both event and global assessments of behaviour have been adopted as complementary sampling techniques (McMahon & Metzler, 1996). The first approach allows measurement of every occurrence (i.e. frequency/rate) of a discrete behaviour during the observation period, whereas the second approach is adopted when observers need to summarise across behaviours between two or more participants in order to create molar ratings such as responsiveness and warmth. Frequency sampling is particularly useful to studies examining whether a specific behaviour (e.g. commands) happens more often in one group compared to another, or at one time point compared to another (e.g. before and after treatment). Global sampling particularly applies to studies focusing on the intensity of specific patterns of interaction, rather than on exact amounts of a given behaviour. Using Likert-type scales a single rating is given at the

end of the observation period (Margolin, Oliver, Gordis, O'Hearn, Medina, Ghosh, & Morland, 1998; Mrazek, Dowdney, Rutter, & Quinton, 1982).

In the present study, it was decided to design a measurement system tapping attachment-based dimensions of parent-child relationship quality. At the end of each observation period, level and intensity of sensitivity, affect and mutual displays were assessed using global ratings. As suggested by Gardner (1984), clear operational definitions were provided for these categories to aid as precise an identification as possible of behavioural evidence from the stream of interactions and attainment of high inter-observer reliability. The several phases involved in the development of the new measure (i.e. the CARP) are described in the following section, along with a description of another coding scheme (i.e. the PBCS) where event-sampling of parental behaviour was used. In turn, the psychometric evaluation (i.e. reliability, stability, and validity) of the newly developed observational measure will be addressed in the results section (chapter 6).

4.2. The development of the Coding of Attachment-Related Parenting (CARP)

4.2.1. Addressing research limitations at the conceptual level

As mentioned before, there is a predominance of coding schemes that identify parenting and child behaviours that do not correspond to attachment features of the parent-child relationship. This constitutes a serious limitation as effective parenting not only involves appropriate disciplinary components (e.g. the use of clear commands that provide logical and natural consequences for non-compliance), or positive reinforcement of child pro-social behaviour (e.g. praise, acknowledging compliance), but necessarily involves responsivity to child's individual needs, interactions infused by positive affect and warmth, and dyadic positive reciprocal/mutual interchanges (Rutter & O'Connor, 1999; Greenberg & Speltz, 1988).

Consequently, there is limited evidence on the connections between attachment and non-attachment components of parent-child relationships (Speltz et al., 1995; Greenberg et al., 1993). Thus, the potential interplay between both these dimensions, the extent to which they mediate changes in parenting quality, and how they might relate to or

predict reductions in child antisocial behaviour, is still mostly unknown (Scott, 2002; 2003a; O'Connor, 2002).

The CARP addresses these limitations as it measures attachment-related parent behaviours that have been implicated in the establishment of secure attachments, promotion of optimal outcomes in children and reduced levels of antisocial behaviour, namely sensitive responding, positive affect and mutuality/reciprocity (Cassidy & Shaver, 1999; Ainsworth et al., 1978; Belsky, 1999; Kochanska & Murray, 2000). By using a measure of attachment/dyadic aspects of parent-child relationships in conjunction with social learning based measures of parenting (i.e. the PBCS), this study aims to integrate both theoretical approaches to parenting, a neglected area of research so far (Speltz et al., 1995; DeKlyen & Speltz, 2001; O'Connor, 2002, Rutter & O'Connor, 1999; Sutton, 2001; Scott, 2003a). Examination of the extent to which both parenting models converge and/or diverge from one another is possible by applying the CARP as an evaluation tool for the effectiveness of a social learning based parenting programme. In other words, if improvements in attachment-related parenting are identified following an intervention based on Social Learning Theory (SLT) principles, this would constitute a direct test of the level of convergence between both parenting perspectives. In this respect, this study is unique in allowing the investigation of whether intervention effects may be generalisable across methods (i.e. CARP vs. PBCS) and theories (i.e. Attachment vs. SLT).

4.2.2. Addressing research limitations at the methodological level

This study also aimed to address the inadequacies in defining and measuring school-age attachment qualities of the parent-child relationship that still prevail in research (O'Connor, 2002; Thompson & Raikes, 2003). The CARP was also intended to provide a reliable and valid measurement of age-appropriate attachment-related parent and child behaviour observable in everyday situations at home (e.g. play) rather than in an artificial setting (e.g. the laboratory) (Rutter & O'Connor, 1999).

A series of coding schemes have focused on aspects of parent-child relationship quality that share similarity with attachment-based constructs. An example is "The Young Family Interaction Coding" by Paley, Cox and Kanoy (2001), which includes global ratings of Sensitivity/Child-Centredness, Positive and Negative Affect to assess

interaction at the triadic (mother-father-child) level. However, this is a measure of family interaction quality, thus focused on behavioural exchanges beyond the dyad. Also, like most observational measures using attachment-related constructs it was designed for use in toddlerhood and early childhood (i.e. pre-school), has been primarily used with White middle-class families, and its potential relationship with measures of antisocial behaviour has been overlooked (Weinfield et al., 2002; Ispa, Fine, Halgunseth, Harper, Robinson, Boyce, Brooks-Gunn, & Brady-Smith, 2004; Bernstein, Harris, Long, Iida, & Hans, 2005). Other measures predominantly focus on the measurement of single dimensions/coding categories (e.g. "The Parent-Child Mutuality Coding Scheme" by Lindsey and Mize, 2001b), and their potential relationship with child antisocial behaviour in at risk samples has also been under-researched.

As mentioned before, in school-aged children attachment status has been commonly measured through representational measures (Thompson & Raikes, 2003; Solomon & George, 1999). Although evidence on the association between attachment representation and child disruptive behaviour has been provided, studies have predominantly used report measures, voluntary and predominantly White, middle-class samples (von Klitzing, Kelsay, Emde, Robinson, & Schmitz, 2000; Oppenheim & Waters, 1995; Oppenheim et al., 1997). Less is known about whether the same associations can be found in at risk multi-ethnic samples and comparing outcomes not just with report but also with observation measures of parent-child interaction.

To address the methodological limitations above (i.e. how to define and assess attachment in school-aged children), the CARP is a measure where careful consideration was taken regarding the operationalisation of age-appropriate attachment-related parent and child behaviours. In school-aged children (as in this sample), attachment behaviours will not equate those observable in infancy (i.e. proximity seeking following distress caused by parental separation). Instead, at this developmental level it is expected that children will have an increased need of parental independence, and at the representational and linguistic levels, they will be able to not only understand their parent's emotional signals but also to reciprocate these emotions by communicating their feelings (Solomon & George, 1999; Thompson & Raikes, 2003). This means that behavioural manifestations of sensitive parenting have to necessarily match the new set of emotional needs, psychological and physical capacities present in

later stages of development (Greenberg & Speltz, 1988; Speltz, 1990; Greenberg et al., 1993; Stams et al., 2001). Equally important, was that operationalisations of school-age indicators of attachment-related parent-child interaction accommodated behaviours observable in the context of joint activities in the home setting (Rutter & O'Connor, 1999).

In the CARP, operationalisations of school-age attachment-related parenting emphasise a) responsivity to child's verbal or nonverbal seeking behaviour, positive and child-focused engagement during interactions, levels of facilitative comments and/or actions to help the child achieve his/her own goals, promotion of autonomy by encouraging the child to perform actions by themselves, verbal and/or nonverbal expressions of warmth toward the child (e.g. praises and affectionate squeezes); b) expressions of positive affect (e.g. smiling); and c) the ability to behave mutually with the child.

Additionally, child age-appropriate attachment-based behaviours observable in everyday situations (such as play) were operationalised in this measure as a) their ability to be mutual (i.e. how children balance their need for autonomy with their parent's involvement in their activities); b) their affectionate style toward their parents; and c) their levels of responsiveness to their parents (e.g. do these children respond warmly to parental guidance or do they reject/ignore parental input instead?).

4.2.3. Addressing research limitations at the intervention level

Integrative interventions combining social learning and attachment models of parent-child relationships and targeting families of school-aged children at risk of antisocial behaviour have hardly been developed, implemented and adequately evaluated (Sutton, 2001; Webster-Stratton & Hooven, 1998).

The present study aimed to establish whether following a social learning based parenting programme, there were improvements in attachment-related aspects of the parent-child relationship (dimensions not directly targeted for change). As explained above, if the intervention proves successful in improving attachment-related qualities of the parent-child relationship, this provides evidence for the extent to which both attachment and social learning models of parenting are interconnected. In other words, if improvements in a behavioural-count measure (i.e. PBCS) or theory (i.e. Social

Learning) translate to improvements in another measure (i.e. CARP) or theory (i.e. Attachment) this would constitute sound evidence for the convergence between both parenting models. The relative contributions of each theoretical perspective to child outcome can also be examined. Furthermore, the combination of attachment and social learning models of parenting may constitute a valuable theoretical framework enabling researchers involved in the development and implementation of parenting programmes to identify a wider range of parental behaviours that potentially contribute to the emergence of antisocial behaviour in children.

4.2.4. Operationalisation and refinement of measurement criteria and behavioural categories

In the initial phases of the CARP's development, a literature review was conducted on the key dimensions of parent-child interaction that according to Attachment Theory a) characterise sensitive/responsive parenting, b) promote the child's healthy socio-emotional development and c) constitute protective factors against the early development of behaviour problems, insecurity of attachment and various psychiatric disorders (Goldberg, 2002; Belsky, 1999; Greenberg et al., 1993; Crittenden & Claussen, 2000).

The first operationalisation stage referred to the identification of behaviours of interest that could be observed in the context of parent-child play interactions at home, using a sample of school-aged children. The five dimensions targeted for measurement were 1) Parental Sensitivity/Responsiveness, 2) Promoting Child's Autonomy, 3) Child Mindedness, 4) Shared Affectivity, and 5) Mutual Engagement and Matching. The rationale behind these dimensions is as follows:

1. Parental Sensitivity/Responsiveness emphasises the parent's awareness of the child's needs and sensitivity to his/her signals (Bowlby, 1997; Ainsworth et al., 1978, Belsky, 1999; Crittenden & Claussen, 2000). High parental sensitivity/responsiveness has been hypothesised to lead the child to feel an internal obligation and commitment to the parent and the relationship, wishing to cooperate with him/her, making strong parental pressure (i.e. high levels of parental control) unnecessary (Kochanska, 1997; Kochanska & Murray, 2000; Kochanska et al., 2005).

2. Promoting Child's Autonomy relates to how parents handle children's attempts to assert their autonomy (i.e. the parent's ability to allow both increasing independence and the opportunity for children to learn from their own actions). These early manifestations of autonomy and independence constitute the emergence of self-assertive behaviour (Dowdney et al., 1984; Speltz, 1990). Thus, a parent who promotes autonomy is the one who allows his/her child to explore the environment without having his/her flow of activity interrupted/broken by the parent's over-controlling/intrusive or unnecessarily directive behaviour.

3. Child Mindedness refers to the parent's ability for perspective taking, which is defined as the parent's capacity to adopt the psychological point of view of their children's thoughts and feelings. This is a crucial feature of a "system of reciprocity" (Meins et al., 2001; Kochanska, 1997; Kochanska et al., 2005). This parental ability is likely to help the child develop and become aware of his own psychological/emotional states, and has also been strongly implicated in adaptive social functioning in multiple relationships (Davis, 1983). Thus, the better the parent understands and uses the child's frame of reference in order to enhance the child's understanding of his/her own thoughts and feelings, the more competent the child would become in terms of developing a self-awareness of who they are, what they are capable of, and how to better co-construct their relationships with their parents and with significant others (Kochanska, 1997; Kochanska & Aksan, 2004).

4. Shared Affectivity results from physical or verbal displays and expressions of emotion in parent-child interactions, which are of vital importance for normal emotional development (Lewis & Rosenblum, 1978; Dix, 1991; Izard, 2004). Thus, if joint parent-child activities are pleasurable and infused with positive affect, the transmission of these positive emotional states contribute to the child's willingness to cooperate with the parent and to the emergence (and maintenance) of the parent-child mutual bond (Kochanska, 1997; Grusec & Goodnow, 1994; Gardner, 1994).

5. Mutual Engagement and Matching are both elements guiding a specific parental behaviour to promote the child's willingness to be socialised (i.e. teaching the child to acquire social skills). In specific contexts of joint interaction (e.g. play), these teaching exchanges can take the form of verbalisations or actions through which parents communicate their interest in their children and their activities, and ultimately may

shape their children's behaviour. The extent to which these exchanges take place during parent-child interactions may differentiate between parents who merely acknowledge or accept their children's contributions to an exchange, but are less actively engaged in it themselves versus those parents who verbally or physically extend and elaborate communication at concrete and symbolic levels, using the opportunity to show pleasure, interest, and approval of their children's activities (Dowdney et al., 1984). These types of exchanges can be viewed as part of how responsive and affective parents are to their children.

Another crucial aspect of these teaching experiences is the active mutual engagement exhibited by the dyad whilst performing a joint task and with a specific focus on what Forman and Kochanska (2001) described as parental matching/imitation of child actions and vice-versa. Although other aspects of mutual engagement are equally important (e.g. joint attention), the crucial relevance of the effects of matching/imitation in building relationships is reinforced by the authors. They cite Uzgiris' work (1984) which emphasises the idea that imitation prolongs interactions, increases pleasure in them, aids in their coordination and regulation (as in turn-taking interactions or games), communicates shared meaning, and fosters later communicative development. Furthermore, it is noted that as parental matching of child's actions can be viewed as an aspect of responsiveness, parents may also find being imitated by their children pleasurable and meaningful (Forman & Kochanska, 2001).

Following this initial identification of key dimensions to be measured by the CARP, a reformulation of behaviours of interest was conducted. First, a school-age conceptualisation of parental sensitivity had to necessarily refer to a broader construct encompassing behaviours other than parental awareness of the child's needs and to sensitively respond to them in a prompt, contingent, warm, and interested manner. A responsive attitude on the part of the parent would also include aspects such as 1) being aware of the child's emotional/mental state and the use of mental state language such as assertions that the child is bored, worried or excited, 2) being able to pick up that the child is having difficulties while performing an activity, and provide assistance even if not requested by the child to do it (i.e. no clear signals from child to respond to); 3) keeping a high level of engagement with the child, focusing attention on the child's actions, following his/her activities rather than directing him/her (i.e. child-centred); 4) encouraging the child to perform actions by himself/herself while being supportive in

his/her efforts to achieve his/her aims; and 5) maintaining a warm affectionate style while interacting with the child. As a result of these reformulations, the following subcategories of behaviour were incorporated into the main construct of Parental Sensitivity/Responsiveness: 1) Sensitive Child Mindedness; 2) Responsive Facilitation, 3) Responsive Engagement, 4) Encouraging/Promoting Autonomy, and 5) Warmth (for scales' description see chapter 5 and for final version see Appendix F1).

A second reformulation of the scheme considered the operationalisation of Positive and Negative Affect in both parent and child. Whereas Warmth was considered as a dyadic characteristic feature of parental sensitivity indicative of how parents relate to their children at an emotional level irrespective of parental mood, Parental Affect referred only to specific behaviours implicated in the assessment of mood, which is understood as a trait of the parent himself/herself rather than the emotional style displayed by parents while interacting with their children (Eisenberg et al., 2001a). Thus, the scheme sought to differentiate between displays of warmth and signs of positive vs. negative affect in parent and child. To illustrate, a parent that shows signs of negative mood such as lack of energy can still praise his/her child, in which case he/she will still score high in warmth but low in positive affect. The measurement of child affect was also deemed appropriate, as it is known from the literature the crucial role of affect in mediating positive relationships between parent and child, where each member of the dyad tends to reciprocate their affectionate style which in turn helps in maintaining the positive emotional bond between them – this "emotionally mediated communication" (e.g. parent smiles, child smiles back or vice-versa) remains a principal feature of intimate relationships throughout life (Bowlby, 1988). Following this second reformulation, four behavioural categories were chosen for measurement: 1) Parent Positive Affect, 2) Parent Negative Affect, 3) Child Positive Affect, and 4) Child Negative Affect (for description of scales see chapter 5 and for final version see Appendix F1).

A final reformulation helped in establishing the behavioural categories constituting the Mutuality construct. To code mutuality, parent and child are seen both as part of the relationship rather than separate from one another. Seven main indices of mutuality refer to 1) how clear is to the observer that each member of the dyad seems to willingly accept and seek the other's involvement in the activity, 2) how both members of the dyad build on each other's input and coordinate their efforts/actions while conducting an activity together, 3) the level of shared attention between them, where both maintain

a common focus through appropriate eye contact, and commenting on each other's actions, 4) the extent to which positive affectionate behaviours are reciprocated between parent and child, 5) whether there are clear instances of matching/imitation of each other's behaviours, providing the dyad with a sense of partnership that helps to embellish the activity, 6) the maintenance of fluid conversation between them, not ignoring what the other says or following different directions in discussion, and 7) keeping physical proximity/closeness to one another during the activity. These seven categories were designated 1) Child Initiated Activity and Involving Parent, 2) Interactive-Reciprocal Play/Turn-Taking, 3) Shared Attention, 4) Appropriate Positive Affect-Matching, 5) Mirroring/Matching, 6) Fluid Conversation, and 7) Coordinated/Shared Body Orientation (for scales' description see chapter 5 and for final version see Appendix F1).

4.3. Observational measure of social learning based parenting – the Parent Behaviour Coding Scheme (PBCS)

The PBCS (adapted from Aspland, 2001) is a measure based on central social learning notions such as "rewards", "behavioural contingencies", "reinforcement" and "punishment" (Patterson, 1982; Gardner, 1992). This scheme uses event-coding as a measurement strategy (i.e. counting frequencies of specific types of behaviour). It enables the coding of two main dimensions of parental verbal behaviour: (1) child-directive verbalisations and (2) child-centred verbalisations. Child-directive verbalisations refer to parental utterances that aim at directing the child, rather than following his/her own actions without parental interference. Parental commands, prohibitions, and interrogations are specific examples of such utterances. By contrast, child-centred verbalisations help in achieving a co-operative attitude with the child, providing encouragement and helpful guidance to the child. Attending to the child with descriptive comments about his/her actions, praising, facilitating with helpful suggestions, and seeking cooperation with the child are all examples of a child-centred attitude (for codes' description see chapter 5 and for final version see Appendix G1).

4.4. Observational measures of parent and child behaviour as globally rated – the Parent Global Coding Scheme (PGCS) and the Child Global Coding Scheme (CGCS)

Parent Global Coding Scheme (PGCS)

In addition to global measures of attachment-related parenting and event-coding of child-directive and child-centred parental verbalisations, an additional global measure of parenting was also developed. This measure included the code of Parental Intrusiveness, which provides information on the level and intensity of intrusive acts (verbal and/or physical) displayed by the parent while interacting with his/her child. Intrusiveness has not only been found to characterise insensitive parenting (Ispa et al., 2004; Maccoby & Martin, 1983) but depending on the level and intensity in which it is displayed it can differentiate between non-coercive control events and coercive/harsh disciplinary styles (Webster-Stratton & Hooven, 1998; Scott, 2002). A global measurement of this dimension adds more information than a simple frequency count of specific types of commands (Aspland & Gardner, 2003). Furthermore, research indicates a link between antisocial behaviour in children and parents who display intrusiveness in their interactions with their children (e.g. trying to take over when completing tasks with their children) (Campbell, Pierce, Moore, Marakovitz, & Newby, 1996; Bloomquist, August, & Brombach, 1996). Operationalisations of Parental Intrusiveness were similar to those used in previous observational studies of parent-child interaction during joint activities at home (Dowdney et al., 1984; Ispa et al., 2004). Intrusive behaviour corresponded to 1) interrupting/breaking the child's flow and enjoyment by attempting to control/dominate the interaction, 2) discouraging child's autonomy, and 3) parental inability to pace himself/herself at his/her child's age and level of learning (for scale description see chapter 5 and for final version see Appendix H1).

Child Global Coding Scheme (CGCS)

A key aim of this study was to evaluate the effectiveness of a parenting programme in changing parenting quality and child behaviour. Consequently, the main child outcome targeted for observational measurement was problem behaviour. However, measurement of other aspects of child behaviour was also prioritised. Most intervention studies have predominantly focused on targeting ineffective parenting strategies and

antisocial behaviour (Kazdin, 1987; 2005). As a result, other dimensions of parenting and child functioning equally important for the child's healthy socio-emotional development have been rather neglected by research. In intervention research, targeting change in dimensions such as attachment-based qualities of parent-child interaction (see above) and positive aspects of child behaviour such as positive affect and social responsiveness has been much less of a priority (Greenberg, 2005). Another dimension of child behaviour - attentiveness, has been extensively studied in terms of its associations with conduct problems, and has been targeted for change by interventions (Moffitt, 1990; Taylor, Chadwick, Heptinstall, & Danckaerts, 1996; Sonuga-Barke et al., 2001). However, in intervention studies observational assessment of child attentive behaviour has hardly been conducted, and its links with attachment-based parenting are mostly unknown (Hartman, Dtage, & Webster-Stratton, 2003; Fearon & Belsky, 2004). Also, observational studies of attentive behaviour have not considered the correspondence between this outcome and other indices of child adaptive behaviour (Whalen & Henker, 1999).

The CGCS was developed to provide an observational assessment of a wider range of child behaviour covering negative and positive outcomes. Key behaviours of interest are 1) the extent to which the child focuses his/her attention on the task at hand, without shifting to another activity before completing what he/she is currently doing or engaged with, 2) the level of enjoyment displayed by the child during the interaction with the parent and regardless of whether the enjoyment is about the play activity or not, 3) how difficult/uncooperative and noncompliant the child is when interacting with his/her parent, and 4) the extent to which the child is responsive towards and/or acknowledges the parent's presence during the interaction (e.g. does the child socially relate to the parent by acknowledging what parent says/does or is child distant and indifferent to parental efforts at involvement in the play activity?). The quality of the child's overall behavioural and relational style as displayed throughout the interaction is also coded (for description of scales see chapter 5 and for final version see Appendix I1). Observational assessment of all these indices of child behaviour, ranging from oppositional to adaptive/pro-social functioning, provides a unique opportunity to examine which of these dimensions are more likely to change following a parenting programme, the extent to which they associate with contrasting parenting measures (i.e. attachment-related and social learning based), and their level of correspondence with representations of attachment.

CHAPTER 5. Methods

5.1. Design outline

In this study, parent-child videotaped observations were randomly selected from families that took part in the Primary Age Learning Skills (PALS) project (Scott & O'Connor, 2001). These families were recruited from a community sample and were evaluated as being at risk of social exclusion. The families selected were then randomly allocated to either a parenting programme group (i.e. treatment group) or to a comparison group with access to usual parenting support services only (i.e. control group).

5.2. Sample

The PhD sample comprised a total of 86 parent-child videotaped observations randomly selected from three cohorts of the PALS project. For clarification, a brief description of the PALS sample is provided, followed by the main characteristics of the PhD sub-sample targeted for study in the present investigation.

5.2.1. PALS sample

Participants that took part in the PALS project were families from a range of ethnic backgrounds with children aged 5 to 6 years when first assessed. Children were in reception and in year 1 in 4 primary schools in Peckham, London Borough of Southwark, an area of high deprivation in the UK. In order to identify high risk and low risk families, children were screened through the use of the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997). Parents who were randomly allocated to the treatment group[6], were offered the UK version of the Webster-Stratton group programme (Webster-Stratton, 1981; Scott et al., 2001a) for 12 weeks (one school term) followed by an abbreviated form of the Supporting Parents on Kids Education (SPOKES) reading readiness programme (Scott & Sylva, 2001) for 6 weeks. Assessment strategies involved collecting data through direct observation, self-report measures and semi-structured interviews at baseline (time 1), end of treatment/control period (time 2) and at 6 months follow-up after completion of treatment/control period

[6] For details on the randomisation process for the PALS study see Scott et al (2005a).

(time 3). Of a total of 233 families approached to participate in the project, 174 (75%) agreed to take part in the study. Of these initial 174 participants, 152 (87%) were successfully followed-up a year later. Of the 22 who were not followed-up, 13 (59%) were allocated to intervention and 9 (41%) to control groups. In Table 1 below a description of the main characteristics of the recruited parents and their children is presented. This information is also compared with the PhD sub-sample (see 5.2.2. below).

5.2.2. PhD sample

It was the PALS observational data collected through the use of videotaped parent-child interactions that constituted the main method of data collection for the present study. In these observations, the parent and his/her school-aged child were observed during play tasks at home. Of the 174 observations conducted for the PALS project, a total of 86 (49%) were randomly selected for the present study. The randomisation process consisted of having an independent researcher to randomly assign the symbols 'x' or 'y' to each observation's ID number. This ensured that for the purposes of coding, the author would remain blind to both the group condition (intervention vs. control) and the time point (pre-treatment vs. follow-up) of each selected observation. Of 86 observations selected, 74 (86%) referred to mother-child dyads, 9 (11%) to father-child dyads, and 3 (3%) to grandmother-child dyads. As for the number of observations that provided follow-up data, these corresponded to a total of 78 out of the initial 86 (91%). Of the 8 observations for which follow-up data were not available, 4 (50%) corresponded to families allocated to the intervention group, and the remaining 4 (50%) to the control group. The main demographic characteristics of the PhD sample are presented in Table 1 below and compared with the PALS main sample as well as with the PALS families that were not randomly allocated to take part in this study. Mean differences between the latter group and the PhD sub-sample were calculated in order to establish if both groups matched on main demographic descriptors. A more detailed description of the PhD sample's demographic characteristics according to group condition (intervention vs. control) is presented in Table 3 of the Results chapter (i.e. section 6.1.2. below).

Table 1: Demographic characteristics of the PALS sample and the PhD sub-sample

	PALS main sample (n = 174)		PALS excluded from PhD (n = 88)		PhD sub-sample (n = 86)		PALS excluded from PhD vs. PhD sub-sample†	
	M or % (n)	**SD**	**M or %** (n)	**SD**	**M or %** (n)	**SD**	T-Test	Chi Test
Child age at Pre-treatment (mean in years)	5.17 (165/174)	0.49	5.26 (79/88)	0.60	5.08 (86/86)	0.35	t=2.39; df=163; **p=0.02***	
Child male	47.7% (83/174)		40.9% (36/88)		54.7% (47/86)			Fisher's Exact Test± – p=0.10; Cramer's V = 0.14
Primary caregiver in ethnic minority‡	74.9% (125/167)		72.8% (59/81)		76.7% (66/86)			Fisher's Exact Test± – p=0.60; Cramer's V = 0.05
Lone parent	41.8% (56/134)		45.1% (23/51)		39.8% (33/83)			Fisher's Exact Test± – p=0.59; Cramer's V = 0.05
Mother ended education by 16, no further qualifications	35.5% (60/169)		36.5% (31/85)		34.5% (29/84)			Fisher's Exact Test± – p=0.87; Cramer's V = 0.02
Council or Housing Association Home	81.7% (138/169)		82.4% (70/85)		81.0% (68/84)			Chi = 0.06; p = 0.81; Cramer's V = 0.02
Household income £175 per week or less	40.6% (67/165)		41.7% (35/84)		39.5% (32/81)			Chi = 0.08; p = 0.78; Cramer's V = 0.02
GHQ psychological well-being score	8.99 (147/174)	4.71	8.52 (62/88)	4.29	9.33 (85/86)	4.99	t=1.04; df=145; p=0.30	
Child antisocial behaviour score - (PACS interview)	0.77 (167/174)	0.50	0.78 (81/88)	0.51	0.74 (86/86)	0.49	t=0.71; df=165; p=0.48	

Child hyperactivity score - (PACS interview)	0.54 (166/174)	0.43	0.53 (80/88)	0.44	0.54 (86/86)	0.42	t=0.05; df=164; p=0.96	
No Attended Sessions (Intervention group only)	4.78 (88/174)	5.70	4.58 (45/88)	5.70	5.00 (43/86)	5.77	t=0.35; df=86; p=0.73	

†Mean difference between two groups (PALS observations randomly selected for PhD vs. not selected).
‡Minority group comprises West Africans + Black Afro-Caribbeans + Other Ethnicity.
±Used for variables where more than 25% of cells have expected frequency of less than 5 (Dancey & Reidy, 2002).

As indicated by Table 1 above, the PALS main sample from which the PhD sub-sample was randomly selected refers to a disadvantaged and predominantly minority ethnic group population. The sample also comprised a high percentage of lone parents, and rates of low levels of education were also high.

When comparing both the PhD sub-sample with the remaining PALS families that weren't randomly allocated to take part in this investigation, there were no significant differences between both groups on most demographic characteristics. An exception was the child's age, with the children of the PhD sub-sample being significantly younger than those who were part of the PALS study but not randomly selected for this project. Both samples matched on child's gender, antisocial and hyperactivity scores at pre-treatment, and on all parental descriptors including GHQ psychological well-being pre-treatment scores, and number of sessions attended (intervention group only).

5.2.3. Inclusion criteria

Inclusion criteria for the PALS project were the parents' ability to attend the parenting sessions or to consult the parenting services provided to the control group, ability to speak English and having the index child not presenting with clinically marked general global developmental delay or disorder. These criteria were used prior to randomisation of groups to treatment/control conditions.

5.2.4. Power calculation

Two power calculations were conducted for this study. First, analyses were conducted to determine the power needed to detect baseline (time 1) associations between parenting measures, child behaviour, and child attachment representation. Second, power to detect change (from pre to follow-up) in parent and child outcomes following the intervention was also conducted. Regarding the first power calculation, using the measures developed in this study to assess parent-child interaction through direct observation, and with a sample size that aimed at 85 families there is 80% power to detect a small to moderate effect size (i.e. correlation coefficient = 0.30) with a significance level of p = 0.05, using a correlation test. The second power calculation determined that, with samples of 39 families per group (i.e. control vs. intervention), there is 80% power to detect a moderate standardised effect size of d = 0.65[7], with a significance level of p = 0.05, using a T-Test for independent groups (i.e. change scores). The NQuery Statistical Programme specified these parameters.

5.3. Measures

Although PALS data were collected and measured at 3 different time points, the measures used in the present study provide data referring to two time points only – baseline (time 1) and follow-up stages (time 3). This strategy relied on the assumption that to identify any changes in child behaviour, they need time to internalise changes in their parent's behaviour and relational styles. In this case, we allowed 6 months after the end of treatment to see if changes in parenting have mediated changes in children's behaviour giving a year between assessments. The assessment at 6 months post-intervention also means that differences that are obtained according to treatment are comparatively enduring.

In the PALS study, two main strategies for the collection of data were employed. First, investigators directly supervised by the project leaders collected data through interview, self-report, and direct observation (i.e. conducting home and school visits to videotape parent-child interactions in the parent's home and children involved in a doll-play task at school). Second, as an independent observer, the author conducted the collection of

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[7] A significant effect size of 0.60 regarding change in observational measures of parenting (i.e. positive attention) has been reported in a similar prevention trial (Scott, Sylva, Doolan, Jacobs, Price, Crook, & Landau, 2005b).

observational data. This involved random selection of videotaped parent-child observations, development and refinement of observational measures and subsequent coding. No direct contact with the families at all stages of data collection ensured that parent-child observational data were coded as objectively as possible. In other words, during data collection the independent observer remained blind to any identifying information.

5.3.1 Measures at baseline (time 1)

Prior to allocation of parents to the intervention vs. control groups, the Strength and Difficulties Questionnaire (SDQ) (Goodman, 1997) was completed by parents and teachers for screening of children at high vs. low risk of problem behaviour due to social exclusion (Appendices A1-A2). Four main subscales of the SDQ were used in this study: Conduct Problems, Hyperactivity, Total Deviance and Pro-social Behaviour. The Conduct Problems subscale is comprised of the following five items: "Often has temper tantrums or hot tempers", "Generally obedient, usually does what adults request", "Often fights with other children or bullies them", "Often lies or cheats", and "Steals from home, school or elsewhere". Each negative item is coded as 0 = Not true, 1 = Somewhat true, and 2 = Certainly true, whereas reverse coding is done on positive items so that for all items a high score indexes increased conduct problems. Five items comprise the Hyperactivity subscale and these are: "Restless, overactive, cannot stay still for long", "Constantly fidgeting or squirming", "Easily distracted, concentration wanders", "Thinks things out before acting", and "Sees tasks through to the end, good attention span". Each negative item is coded as 0 = Not true, 1 = Somewhat true, and 2 = Certainly true, whereas reverse coding is done on positive items so that for all items a high score indexes increased hyperactivity problems. The Total Deviance score is a composite of 4 main subscales including: Conduct Problems, Hyperactivity, Emotional Problems and Peer Problems. All scores obtained in these subscales are therefore summed up with the resultant overall score ranging from 0 to 40 (i.e. maximum score of each item = 2 x number of items per subscale = 5 x number of subscales composited = 4). A high score in this scale indexes increased overall deviance. The Pro-social Behaviour sub-scale is comprised of 5 items: "Considerate of other people's feelings", "Shares readily with other children", "Helpful if someone is hurt. upset or feeling ill", "Kind to younger children", and "Often volunteers to help others". All items in this sub-scale are positive and are coded as 0 = Not true, 1 = Somewhat true, and 2 = Certainly

true, with high scores indexing increased pro-social behaviour in the child. Both the parent and the teacher versions of the SDQ have been validated in large UK samples of 5-15 year olds (Goodman, 2001). Psychometric details of these measures are provided in Table 4 of the Results section.

Parents completed a questionnaire on demographic information including ethnicity, educational level, employment history, marital status, and household income (Appendix B1). In this study, five main sample characteristics were used in terms of their association with parenting and child outcomes: parental ethnicity, education, marital status, separation status, and household income. These demographic data were rated in the questionnaire as follows: 1) for parental ethnicity, ratings were made from 0 to 9 with 0 corresponding to "Black African", 1 to "White/North European", 2 to "Mediterranean", 3 to "Black Afro-Caribbean", 4 to "Indian", 5 to "SE Asian/Chinese", 6 to "Mixed parentage", 7 to "Other" (parents were asked to describe which) and ratings of 8 to 9 were made for "N/A" and for "Not known". Final ethnicity ratings to be used in analyses were Black African, White British, Black Afro-Caribbean and Other (i.e. composite of 2 and 4 to 7 above), whereas ratings of 8 to 9 above were treated as missing values. Parental education was rated from 0 to 10 where 0 corresponded to "Left school before 13", 1 to "Left school at 13-16", 2 to "Further secondary 16-18", 3 to "Secretarial or technical qualification", 4 to "Teacher training", 5 to "University course not completed", 6 to "Professional qualification without degree", 7 to "Degree", 8 to 9 to "N/A" and "Not known" and 10 to "Other". Education ratings used in analyses corresponded to Left School before/by 16 (composite of 0 to 2 above), Technical qualification (composite of 3 to 6 above) and Higher education (i.e. 7 above), whereas ratings of 8 to 9 above were treated as missing values. In terms of marital status, three main outcomes were of interest for the present study – married, cohabiting, and lone parent. This information was obtained from the questionnaire ratings referring to the question of "Do you currently have a partner" applicable only to those parents that are separated. Answers were rated from 0 to 8 where 0 corresponds to "No", 1 to "Yes, lives with mum and child", 2 to "Yes, lives elsewhere but has regular contact with child", 3 to "Yes, lives elsewhere but has little or no contact with child", and 8 to "N/A". Values of Marital status to use in analyses corresponded to Lone parent (composite of 0 and 2 to 3 above), Cohabiting (1 above), and Married (8 above). From this information, values of separation status were also obtained with Separated parents corresponding to the sum of ratings 0 to 3 above and Non-separated corresponding to 8

above (i.e. all married parents). Finally, in terms of Household Income/week, parents indicated the rating which would correspond to their income band with 1 corresponding to "Under £60", 2 to "£61-£100", 3 to "£101-£175", 4 to "£176-£275", 5 to "£276-£325", 6 to "£326-£450", 7 to "£451-£600" and 8 to "More than £600". Final Income/week categories to use in analyses were ≤£175/week (composite of 1 to 3 above), £176-£325 (4 and 5 above) and ≥£326/week (6 to 8 above).

The Parenting Sense of Competence (PSOC) (Johnston & Mash, 1989) was also completed by parents (Appendix C1). According to the authors, the initial factor structure of the PSOC referred to two main factors: Efficacy (i.e. the person's perceived competence in the parenting role) and Satisfaction (i.e. the person's liking of the parenting role). Examples of items comprising the Efficacy dimension are: "I honestly believe I have all the skills necessary to be a good mother/father to my child" and "Being a good mother/father is a reward in itself", whereas examples of items comprising the Satisfaction dimension are: "Being a parent makes me tense and anxious" and "Even though being a parent can be rewarding, I am frustrated now while my child is at his/her present age". In this study, no differentiation was made between both dimensions above. Instead, a total score for the PSOC was obtained by summing up scores of all 17 items in this measure. There are positive and negative items and each is answered on a 5-point scale (1-5), ranging from strongly disagree (1) to strongly agree (5). Negative items are 2, 3, 5, 7, 8, 9, 12, 14, and 15 and their scoring was reversed so that for all items higher scores indicate greater sense of parental competence. The total score of the PSOC ranges from a minimum of 1 to a maximum of 85 (i.e. maximum score per item = 5 x total number of items = 17). Although the PSOC was originally used with parents of infants, its use has already been expanded to parents of school-aged children. Preliminary evidence on the validity of this measure has been offered and its use with normal infants, older children and in clinical samples has proven useful. Details of the psychometric properties of this measure are described in Table 4 of the Results section.

Parents also completed the General Health Questionnaire (GHQ) (Goldberg, 1972) (Appendix D1). This measure aims at assessing general psychological well being using a 12-item scale. Parents are asked about their current state of mental health, i.e. whether they have experienced a particular symptom or behaviour in the past few weeks. There are positive items (e.g. "feel capable of making decisions about things") and negative

items (e.g. "feel constantly under strain"). Answers to each item are given on a 4-point scale (1-4), where (1) corresponds to "not at all", and (4) to "much more than usual", if the item is negative; and conversely, when items are positive, (1) corresponds to "better than usual", and (4) to "much less than usual". In summary, all negative and positive items have their scores reversed accordingly so that higher scores will indicate higher levels of psychological distress. Scores for each item are obtained through the Likert scoring method of 0-1-2-3 (Goldberg, Gater, Sartorious, Ustun, Piccinelli, Gureje, & Rutter, 1997) where ratings of 1 are coded as 0, 2 as 1, 3 as 2 and 4 as 3. Thus, for this measure total scores range from a minimum of 0 to a maximum of 36 (i.e. highest score per item = 3 x total number of items = 12). The GHQ has proven to be valid and has been widely used in the general population (Gouveia, Chaves, Oliveira, Dias, Gouveia, & Andrade, 2003). Details on the psychometric properties of this measure are presented in Table 4 of the Results section.

The Parent Account of Child Symptoms (PACS) (Taylor, Schachar, Thorley, & Wieselberg, 1986) was administered to parents (Appendix E1). The PACS is a well-validated, standardised, semi-structured interview where investigator-based criteria are used to assess the frequency and severity of problematic behaviour the child displays at home. For this study two main categories of child problematic behaviour assessed by the PACS were used: (1) Hyperactivity, and (2) Conduct Problems. The Hyperactivity sub-scale comprises: attention span, restlessness, fidgetiness, and activity level. Items comprising the Conduct Problems sub-scale are: lying, stealing, temper tantrums, rudeness, disobedience, refusal to go to bed, destructiveness, and aggressiveness. The PACS provides parental detailed descriptions of their child's hyperactive and disruptive behaviour in specific situations (e.g. mealtimes) over the previous week. Ratings by the interviewers are given based on their formal training and written definitions, and a 4-point scale (0-3) of frequency and severity is used. This measure is designed for use with children ranging from 6 to 11 years of age. Psychometric properties of the PACS measures of child disruptive and hyperactive behaviour are provided in Table 4 of the Results section.

During the PACS interview, several aspects of parenting behaviour were also coded using semi-structured interview methods adapted from Quinton and colleagues (Quinton et al., 1976). Qualities of parenting assessed and included in this study are 1) Communication with child, 2) Overall criticism toward child, 3) Number of times

praises child, 4) Number of times smacks child, 5) Sensitivity, 6) Likes child, and 7) Disciplinary aggression. Communication with child assesses the degree to which parents and children communicate with each other and ratings range from 0 = Very little to 4 = Very good. Whereas low scores reflect lack of conversation and sharing between parent and child, high scores are indicative of fluid conversation and readiness to explore each other's views, feelings, or thoughts. Based on information obtained during the entire interview a rating of Overall criticism is provided with scores ranging from 0 = No expressed criticism to 4 = A lot of criticism throughout. Sensitivity assesses the extent to which a parent is aware of and responds to his/her child's needs or concerns, and the parent's ability to help the child develop a sense of competence in anticipating future problems and to properly cope with these situations. Ratings for Sensitivity range from 0 = Very little to 4 = Very sensitive parenting. Disciplinary aggression assesses the extent to which a parent shouts or is angry at, loses his/her temper with, and physically punishes his/her child. This scale is rated from 0 = Very little to 5 = Abusive. Likes child is a measure of the extent to which parental affection for the child (e.g. warmth, cuddling, loving looks, etc) is expressed and the pleasure taken from being in the child's company. Ratings on this scale range from 0 = Very little to 4 = Very strong. Number of times praises child is an individual item assessing the amount of praises per day parents give to their children as a way of encouraging good behaviour and is scored from 0 to 4 where 0 = 1-2 praises/day and 4 = 11 or more praises/day. Similarly, Number of times smacks child is an individual item assessing how many times in a week did parents smack their children as a consequence for misbehaviour and is scored from 0 = None to 4 = 4 or more times/week. Ratings on all these parenting dimensions were made by a trained interviewer on the basis of detailed parental descriptions of their behaviour toward their children. Quinton's et al (1976) interview has satisfactory reliability and good validity with previous studies having reported significant high levels of agreement between its ratings of parenting quality and direct observation measures of parenting as well as other parenting assessments such as being referred to social services (Dowdney et al., 1984; Quinton, Rutter, & Liddle, 1984). Details on inter-rater agreement for these measures are provided in Table 4 of the Results section.

Assessment of videotaped parent-child interactions in three play situations (Free-Play, Lego and Tidy-Up) was conducted with the Coding of Attachment-Related Parenting (CARP). Contrary to the PBCS below, this is a measure based on Attachment Theory,

where a dyadic perspective is adopted to capture the quality of parent and child interactional styles (e.g. sensitive responding from parent and positive affect from child) rather than focusing on social learning methods to measure quantifiable and specified behaviours (e.g. number of parental commands given in a 10 min period). This is therefore a global measure that enables coding of level and intensity of each parent and child interactional style using a 7-point scale with scores ranging from 1 = No evidence of behaviour to 7 = Pervasive/extreme manifestations of behaviour. Attachment-related parenting behaviours that are coded are: Sensitive Responding, and Parent Positive and Negative Affect. In addition, child age-appropriate attachment-related behaviours of Positive and Negative Affect are also coded. Also included in the scheme is the dyadic code of parent-child Mutuality. The key behaviours comprising the Sensitive Responding scale are: responsiveness to child, sensitive child mindedness, responsive facilitation, responsive engagement, encouraging/promoting autonomy, and warmth. Comprising the scale of Positive Affect (whether for parent or child) are behavioural manifestations of positive mood (e.g. happy face), enthusiasm, positive verbalisations, and positive tone of voice (e.g. sounding happy, excited). In contrast, Negative Affect (for either parent or child) is comprised of displays of irritability (e.g. grumpiness, negative facial expressions), lacking enthusiasm, critical verbalisations, and negative tone of voice (e.g. sounding sarcastic, hostile). Main behavioural manifestations of dyadic Mutuality are: child-initiated activity inviting parent to join in, interactive-reciprocal play/turn-taking, shared attention, positive affect matching, behavioural mirroring/matching, fluid/joint conversation, and coordinated/shared body orientation. Detailed descriptions on the operationalisation of each one of these behaviours and of the coding criteria for each scale are presented in Appendix F1. The development of the CARP drew on research focusing on how attachment theorists such as Ainsworth and colleagues (1978), Kochanska (1997), Meins and colleagues (2001), and Belsky (1999) have conceptualised key aspects of the parent-child relationship that promote the quality of their interaction and healthy/secure attachment to one another. Consequently, face and content validity of the CARP are acceptable. In terms of reliability and stability values for this measure, these are presented in Table 4 of the Results section.

Videotaped parental verbal behaviour as shown in three play tasks as described above was assessed with the Parent Behaviour Coding Scheme (PBCS) (adapted from Aspland, 2001). This is an event-based observational measure in which two main categories of parenting behaviour – child-centred and child-directive - are coded in the

form of frequency counts. Child-centred behaviours refer to Neutral Attends, Positive Attends, Praises, Facilitation, and Mental State, whereas child-directive behaviours refer to Alpha (clear) commands, Beta (vague) commands, Seek-cooperation, and Prohibition. Other categories coded refer to parental questions or Interrogative, Criticism and Teach. A full description of the operationalisation of these behaviours and their coding criteria is provided in Appendix G1. The development of the PBCS drew heavily on existing social learning based observational measures of parent behaviour such as the Behaviour Coding Scheme (BCS) by Forehand and McMahon (1981) and literature research on parental behaviour that social learning theorists have associated with the early development of child antisocial behaviour. Thus, its face, content and predictive validity are high. Reliability and stability values for this measure are provided in Table 4 of the Results section.

Besides the CARP, an additional global measure used to code parental behaviour as observed in parent-child play videotaped interactions at home was the Parent Global Coding Scheme (PGCS), which comprises the individual code of Parental Intrusiveness. This is a measure of the extent to which the parent interrupts or breaks the child's flow. Key behavioural manifestations of intrusiveness refer to parental discouragement of child autonomy-granting behaviours, not respecting the child's pace, making intrusive verbalisations (e.g. questioning, disputing, etc) or acting intrusively (e.g. grabbing toys from child's hands). A 7-point scale is used to rate intrusiveness with scores ranging from 1 = No evidence of behaviour to 7 = Pervasive/extreme manifestations of behaviour. Details on the operationalisation of this measure are provided in Appendix H1. Reliability and stability values are presented in Table 4 below.

Child behaviour was also coded through observation of videotaped parent-child interactions during the same three play tasks as mentioned above. The measure used was the Child Global Coding Scheme (CGCS). The CGCS provides an objective assessment (i.e. by independent observer) of five main child outcomes: Child Attention on Task (CAT), Child Enjoyment with Activity (CEA), Child Antisocial Behaviour (CAB), Child Social Responsiveness (CSR), and Child Global Functioning (CGF). A 7-point scale is used to measure all five child behaviours targeted for assessment by the CGCS, with scores ranging from 1 = No evidence of behaviour to 7 = Pervasive/extreme manifestations of behaviour. For the CAT scale, key behaviours are: the extent to which the child is focused on the task throughout, and how

easily/frequently they switch their attention to different activities. CEA focuses on the extent to which the child expresses pleasure and is enthusiastically engaged with the task. Central to CAB are behavioural manifestations of child non-compliance and/or ignoring of parental commands/requests as well as displays of difficult/disruptive behaviour. CSR refers to the extent to which the child relates to his/her parent in a socially adequate way by acknowledging his/her presence and actively responding to parent-initiated behaviours of guidance, affection, encouragement, etc. To code CGF a consideration is taken of the overall quality (level/intensity) of the child's behavioural manifestations of attention on task, responsiveness to his/her parent, positive and negative affect, antisocial behaviour, enjoyment with activity, and the ability to be mutual. Detailed descriptions of the operationalisation of these behaviours and of the coding criteria for each child global scale is provided in Appendix I1. Details on the reliability and stability of the CGCS are also provided below (Table 4).

Videotaped child observational data was also obtained through the administration of the Manchester Child Attachment Story Task (MCAST) (Green et al., 2000; Goldwyn et al., 2000), a measure that assesses child attachment representation (Appendix J1). In this doll-play task the child is presented with a doll's house and two doll-figures: child-doll and parent-doll. These dolls are chosen by the child to represent herself/himself and the primary caregiver of interest to the interviewer. Five attachment-related vignettes are then used to create five different distress scenarios – having a nightmare, getting hurt, suffering from illness, being rejected by a peer, and getting lost from parent. The vignettes involve both dolls, and the child is asked to play out a story completion with these materials following an induction phase by the interviewer. When the child completes the story referent to each vignette the interviewer uses structured probes such as "Can you tell me how the child/parent doll is feeling now?" that help in clarifying the intention, degree of assuagement and mental state attributions behind the play. Thus, specific assuagement strategies children use in their narrative when presented with the stories in the play situation are identified. This information coupled with an examination of the content and structure of children's narratives would then enable the coder to evaluate the child's discourse as representative of a secure or an insecure attachment status[8]. For each vignette a total of 33 codings are made (most of which are

[8] Note: In similar tasks, children in the secure category have a representation of their mother as generally available and warm and the child utilizes the parent to reduce stress or shows an ability to imaginatively and constructively cope with the vignette task. In contrast, two main types of insecurity have been identified: 1) avoidance of interpersonal strategy or lack of emotional openness, and 2) bizarre, violent interactions, and destructive or unresolved endings (Green et al., 2000).

on a 9-point continuous scale). In this study, three main MCAST codings were used: Coherence, Disorganisation (D) score, and Insecurity. Coherence assesses four main attributes of effective discourse: 1) quality (communication is truthful and internally consistent), 2) quantity (is succinct yet complete), 3) relevance (keeping to the topic at hand), and 4) manner (clear and orderly). These four criteria are applied to the child's narrative and discourse style during each vignette and are coded on a 9-point scale with operationalised anchors. A summary Coherence score is then obtained by averaging all vignette coherence scores. The Disorganisation (D) score measures the extent to which the child's narrative is characterised by contradictory behaviours (e.g. proximity-seeking and freezing), lapses, stilling, fear of the parent and disorientated behaviour and whether the child's own behaviour is characterised by a failure in completing sentences or behavioural sequences (e.g. suddenly stops in the middle of the task), lapses into silence or stillness, and displays of dissociation or spacing out (dazed, confused). For each vignette a D score is assigned according to the severity of abnormality, with scores ranging from 1 = absence of D phenomena to 9 = presence of most severe abnormality. A final D score is then generated by averaging all vignette disorganisation scores. Insecurity assesses the extent to which the predominant strategy the child uses to assuage distress is representative of a secure attachment (i.e. child represents an optimal interpersonal strategy in which parental reaction to stress is warm, concerned, appropriate and well timed) or an insecure attachment (i.e. interpersonal strategy to assuage distress is either avoidant, ambivalent, chaotic, or multiple and incompatible strategies are used). Insecurity is coded for each vignette with scores ranging from 0 to 5, where 0 = very secure, 1 = quite secure, 2 = avoidant, 3 = ambivalent, 4 = chaotic, and 5 = multiple. Thus, whereas low scores on the Insecurity scale are indicative of a predominant strategy that is mostly secure, high scores index a predominantly insecure strategy used by the child. The summary Insecurity scale is generated by averaging all vignette insecurity scores.

The MCAST has recently been validated and is designed for use with school-aged children (i.e. 5 – 7 years of age) (Green et al., 2000; Goldwyn et al., 2000). Psychometric characteristics of the measures discussed above are presented in Table 4 of the Results section.

5.3.2. Measures at 6 months follow-up (time 3)

The PACS (Taylor et al., 1986) was administered to parents. Parents also completed both the PSOC (Johnston & Mash, 1989) and the GHQ (Goldberg, 1972). Both parent and teachers also completed the SDQ (Goodman, 1997) at this stage. Videotaped observations of parenting behaviour in the same play tasks recorded at baseline were assessed with the CARP, PGCS, and the PBCS. The CARP (i.e. child positive and negative affect) and the CGCS were used to assess observed child behaviour. Additional child observational data at follow-up was obtained through the administration of the MCAST (Green et al., 2000; Goldwyn et al., 2000).

A summary of all parent and child measures used in the present study at pre-treatment and follow-up stages is presented in Table 2 below. A more detailed description of these measures and their psychometric properties is presented in Table 4 of the Results chapter (i.e. section 6.1.3.1. below).

	Table 2: Summary of Parent and Child Assessment Methods used at Pre-Treatment and Follow-Up Stages							
	Direct Observation		**Interview**		**Questionnaire**		**Doll-Play Task**	
	Pre-Treatment	Follow-Up	Pre-Treatment	Follow-Up	Pre-Treatment	Follow-Up	Pre-Treatment	Follow-Up
Parent & Child (Dyad)	Coding of Attachment-Related Parenting (CARP)	Coding of Attachment-Related Parenting (CARP)						
	Parent Behaviour Coding Scheme (PBCS)	Parent Behaviour Coding Scheme (PBCS)						
Parent Only	Parent Global Coding Scheme (PGCS)	Parent Global Coding Scheme (PGCS)	Parent Account of Child Symptoms (PACS)	Parent Account of Child Symptoms (PACS)	PALS Demographics			
					Strengths & Difficulties Questionnaire (SDQ)	Strengths & Difficulties Questionnaire (SDQ)		
					Parental Sense of Competence (PSOC)	Parental Sense of Competence (PSOC)		
					General Health Questionnaire (GHQ)	General Health Questionnaire (GHQ)		
Teacher Only					Strengths & Difficulties Questionnaire (SDQ)	Strengths & Difficulties Questionnaire (SDQ)		
Child Only	Child Global Coding Scheme (CGCS)	Child Global Coding Scheme (CGCS)					Manchester Child Attachment Story Task (MCAST)	Manchester Child Attachment Story Task (MCAST)

5.4. Procedure

5.4.1. The PALS Project – Main assessment and intervention procedures

In the PALS study (Scott & O'Connor, 2001) all measures were administered before the treatment/control period, after its completion (post-test at 18 weeks) and at 6 months following the end of the programme/control period. For the purposes of the current study, we will concentrate on the procedures used to obtain observational parent-child data. A more in depth explanation of the procedures used for treatment/control conditions will follow. Subsequently, this section will present a description of the procedures involved in the development and refinement of the observational measures for use in this study to code parent and child behaviour and here, particular emphasis will be placed on the several phases involved in the development of the CARP. Finally, the procedures for the coding of the videotaped parent-child interactions that comprise the sample of this study will also be addressed.

5.4.1.1. Parent-child videotaping procedures

a) Home observations

Participant parents and their children were videotaped at home while engaged in a series of play tasks before and at 6 months follow-up after the treatment/control period. These play tasks are (1) Free-Play, (2) Lego, and (3) Tidy Up. At both stages (baseline and follow-up), the tasks were carried out in the same location, with the same choice of toys (Appendix K1), following the same order, according to the same instructions (Appendices L1-L2), and maintaining the same duration. Specifically, in the first task, Free-Play, parents were asked to play with their children as they normally would (when alone at home), with children being provided with a choice of toys (e.g. playdough or the park set) to play with. The duration of Free-Play was 10 minutes. For the second task, Lego, parent and child were provided with Lego pieces and a picture of a toy-model. The child was asked to build the toy-model using the Lego pieces and by copying it from the picture. Parents were allowed to provide instructions to help the child build the toy-model, but should not have touched the Lego pieces during the activity. Lego lasted for 10 minutes. In the final task, Tidy Up, parents were required to get their child to tidy up the toys they used in Free-Play and in Lego by putting them

back in the containers provided. Parents were allowed to help their children in this activity. Tidy Up was set to last 5 minutes. For all these 3 tasks, the investigator did not speak to the parent or child during the observation period except to provide instructions if required by parent and/or child.

b) Selection of play tasks

Based on previous research (Forehand & McMahon, 1981), the tasks chosen for observation – Free play, Lego, and Tidy up – were thought as appropriate to elicit behaviours of interest. Free-play is designed to elicit child-centred behaviour from the parents while interacting with their children (i.e. let the child follow his/her lead in play). In the Lego task what is intended is to see whether the parent's directive behaviour is appropriate in guiding and facilitating the child's completion of the task or whether the parent is intrusive or over-directive hampering the child's efforts at play. Finally, the Tidy up is strictly designed to elicit parental control and child compliance. Child-directed and parent-directed play and tidy-up tasks have been extensively used in observational and intervention research on parenting and child conduct problems (e.g. Webster-Stratton & Hancock, 1998; McMahon & Forehand, 2003; Gardner et al., 1999; Dowdney et al., 1984). Furthermore, play tasks provide a unique opportunity for parents and children to interact in a more harmonious/positive manner (Gardner, 1994). These tasks may therefore be potentially useful in eliciting behaviours consistent with attachment-based qualities of the parent-child relationship.

c) Observation setting

All parent-child observations took place at the parent's home. This feature influences how generalisable findings can be, as it has been shown that observation of behaviour at home provides samples of behaviour that may more closely resemble what families actually do in everyday life than observations that take place in clinical settings, where more artificiality is imposed upon participants (Gardner, 1997).

d) Recording medium

Video recording was used to capture all parent-child interactions. Videotaped observations are of particular use for analysis of behaviours that prove difficult to code. In addition, video recorded behaviour also allows for multi-coding between different coders in order to prevent observer drift and thus, helping with data reliability checks (Aspland, 2001).

e) Standardised instructions

For all play tasks there were brief standardised instructions (Appendices L1 and L2) that were provided to every dyad. Parents and children were given these instructions at the start of every play activity. This guidance remained the same for all dyads, all play tasks and for all time points at which parents and children were observed together at home.

5.4.1.2. Procedures for treatment/control conditions

a) Treatment group

The UK version of the Webster-Stratton parenting programme (Webster-Stratton, 1981; Scott et al., 2001a) was offered to parents allocated to the treatment group. For 12 weeks (one school term), parents were seen as a group for 2-hour weekly sessions. Three main features of the intervention were implemented in each session: (1) parents were shown videotaped scenes of parents and children together, where "appropriate" and "inappropriate" ways of dealing with children were depicted, (2) parents discussed their own child's behaviour and support was provided to them while they practised alternative ways of handling it, and (3) weekly homework was given to parents to practise the new skills, maintaining contact through telephone to encourage their progress. Videotaping of all intervention sessions was conducted and group leaders attended weekly supervisory meetings in order to ensure adherence to the manual.

At the end of this 12-week intervention, parents in the treatment group were offered the abbreviated form of the Supporting Parents on Kids Education (SPOKES) reading readiness programme (Scott & Sylva, 2001) for an additional 6 weeks. The main focus

of this intervention was to provide parents with training on how best to encourage their children in developing and improving their reading skills.

a.1) *Programme providers*

The group leaders responsible for administering both parenting programmes to parents in the treatment group were trained to certification level in both programmes.

a.2) *Programme theoretical basis and practical implementation*

The main features of the parenting programme that was offered to parents who were allocated to the treatment group are summarised by Scott (2002) as follows:

Techniques for promoting a child-centred approach

Parents are provided with strategies on how to follow the child's lead in play, describing what the child is doing as a demonstration of their engagement and interest in their child's actions. Additionally, encouragement is provided to parents to describe their children's mood, feelings, and thoughts. The parental ability to use mental state language is characteristic of sensitive parents who are aware of their child's needs, and to promptly respond to these in a caring, loving fashion (e.g. child yawns and mum uses mentalising comments such as: "I see you are feeling tired", and promptly provides the child with a caring response such as: "would you like me to help you?"). Both strategies – the use of descriptive child-centred comments and mental state language – are seen as parental skills that help the child to feel in control of his/her own actions, to reach an understanding of his/her own feelings and/or thoughts and to feel secure from knowing that his/her parent is attuned to these and will warmly respond to them.

Increasing acceptable child behaviour

Emphasis is put on encouraging parents to praise their children more frequently, and in particular to praise good behaviour in everyday situations (e.g. keeping their room tidy without being asked to). By praising good behaviour on a regular basis, children learn that positive parental attention is provided to them when they behave appropriately – this will serve to reinforce the child's good behaviour.

Setting clear expectations

Parents are taught how to reduce the number of commands they give to their children and what types of directives they should use to increase their effectiveness. Specifically, appropriate directives are those given one at a time, allowing the child sufficient time to comply, as opposed to several commands given simultaneously. Directives should also be given in a warm tone, not critical, and rather than vague and ambiguous, they should clearly state the desired behaviour so that the child can understand what exactly he/she is requested to do. Additionally, compliance is more likely to occur when commands specifically state what is required from the child and what the consequences for compliance and/or non-compliance are. These are when-then commands (e.g. "when you finish your homework, then you can play with your brother").

Reducing unacceptable child behaviour

Consequences for misbehaviour should be given promptly and consistently and must be followed through. If there is no consistency children will learn that they can still misbehave without parental objection. Every consequence should appropriately fit the child's bad behaviour, avoiding a sanction to become extremely punitive leaving the child with a sense of hopelessness where no good behaviour could possibly meet parental demands.

Ignoring child's difficult behaviour is also taught to parents. This is a way of not providing parental attention to child unwanted behaviour. Negative reinforcement to child misbehaviour is therefore the focus of this strategy. Time-out is another strategy that parents are encouraged to use when faced with their children's problematic behaviour.

Strategies for avoiding trouble

To avoid child problematic behaviour on a daily basis, it is crucial for parents to understand what are the specific circumstances that can trigger this type of behaviour. With this knowledge, parents are better equipped to plan ahead how to avoid those triggering moments, and to manage their child's difficult behaviour more effectively. Being able to negotiate with their children also helps in acquiring a better understanding

of what their wishes and thoughts are. The child's point of view is therefore heard, and efforts should be made to accommodate what the child wants or needs as long as family rules still apply. Finally, parental encouragement to help their children acquire problem solving techniques is highly beneficial for both parties. As children's sense of independence and autonomy is promoted, the more they will be able to cope with difficult and frustrating situations without relying exclusively on their parents and/or exhibiting difficult behaviour when ill-equipped to face these triggering moments.

b) Control group

Parents allocated to the comparison group, were approached at school and were told personally about the project. Parents who gave consent to participate were given a questionnaire pack that once completed was returned to the project investigators involved in data collection.

All parents that participated, irrespective of being allocated to treatment or comparison groups, were given the opportunity to make use of two types of service if they so wished: (1) The Parent Adviser Service, and (2) The School-based Drop-in Service. The Parent Adviser Service was tailored to meet individual needs and was provided at local health centres. The Drop-in Service was delivered in all 4 schools selected by the project and was available to parents through appointment with the counsellor. This service not only provided counselling and support to parents but specific advice on managing child's problematic behaviour was also offered.

5.4.1.3. Procedures for development and refinement of observational measures for use in this study

a) <u>The Coding of Attachment-Related Parenting (CARP)</u>

The author of this study was the main investigator involved in the development of the CARP. Further refinement of its operational criteria was conducted in conjunction with a researcher of the PALS team with whom reliability on this measure was also established as explained below.

A summary of the several phases of development and refinement of the CARP is provided. From May 2002 to July 2002, the author conducted research of the literature and produced initial drafts of the coding scheme, where dimensions of behaviour of interest were described and proposed for measurement on a 7-point scale. The author then reformulated these dimensions after weekly meetings with the PhD supervisors and another researcher of the PALS team. The duration of these meetings was between 1 to 2 hours each and took place between July 2002 and May 2003. In each one of these meetings, the CARP was used to code videotapes of parent child interactions in play situations. The coding exercise was followed by discussion to elucidate what reformulations should be made to refine the operationalisation of behaviours and the measurement criteria of the scheme. The author was then responsible for keeping a written record of all decisions agreed in each meeting and of incorporating the new changes to the scheme. The revised scheme was then reviewed in subsequent meetings and if further changes were deemed necessary the scheme was reformulated accordingly. Inter-rater reliability on this measure was conducted in May 2003, followed by subsequent reliability checks every three months between members of the team including the author. These reliability checks were conducted until May 2004, and were useful in helping further refinement of each of the individual CARP categories. Details on inter-rater reliability outcomes for the CARP are provided below (Table 4).

b) The Parent Behaviour Coding Scheme (PBCS) - adapted from Aspland (2001): Refinement of Operational Criteria and Behavioural Categories

The PBCS was chosen to study observable parent behaviour within a social learning approach. In the initial phases of this investigation however, it was decided that the initial version of the coding scheme (for full details see Aspland, 2001) needed further refinement of its codes and measurement criteria. This need emerged from the knowledge that some of the original behavioural categories were highly correlated. To discuss this high level of overlap, the author attended weekly meetings with other members of the team, including one of the leading investigators involved in the development of the original PBCS, during the period of July 2002 and May 2003. In each one of these meetings of 1 to 2 hours each, the original PBCS was used to code videotapes of parent child interactions in play situations. The coding exercise was followed by discussion to elucidate which categories of behaviour could be collapsed, what other codes could potentially be dropped, what reformulations should be made to codes that were to be maintained, or whether there was any additional information

lacking in the scheme. The author of this study was a main contributor to the refinement of the PBCS. The author was also responsible for keeping a written record of all decisions agreed in each meeting and of incorporating the new changes to the scheme. Inter-rater reliability on this measure was conducted in May 2003, followed by subsequent reliability checks every three months between members of the team including the author. These reliability checks were conducted until May 2004, and were useful in helping further refinement of each one of the PBCS behavioural categories. Details on inter-rater reliability outcomes for the PBCS are provided below (Table 4).

c) The Parent and Child Global Coding Schemes (PGCS and CGCS) – Refinement of Operational Criteria and Behavioural Categories

In addition to the PBCS and the CARP, operationalisation of other key parent and child behaviours to be measured via observation was conducted. The behaviours of interest are divided into parental and child global scores. Definitions of these behaviours were presented by the author and refined in weekly coding meetings of 1 to 2 hours each, with PhD supervisors and a researcher from the team during the period of July 2002 and May 2003. As part of the Parent Global Coding Scheme (PGCS), only one parental global score was proposed once inter-rater reliability was established between the author and a researcher of the PALS team in May 2003 - Parental Intrusiveness. This behaviour is measured using a 7-point scale (full description in Appendix H1). Following the inter-rater reliability exercise, subsequent reliability checks on the PGCS were conducted every three months until May 2004. Details on inter-rater reliability outcomes for the PGCS are provided below (Table 4).

The author also identified child behaviours of interest to be measured on a 7-point scale and these constituted the Child Global Coding Scheme (CGCS). Refinement of behavioural definitions of this measure was conducted in weekly coding meetings of 1 to 2 hours each, with a researcher from the team and the PhD supervisors during the period of July 2002 and May 2003. Initially, there were 6 child behaviours, but following the main inter-rater reliability exercise in May 2003 between the author and a researcher of the PALS team, reliability was established only for 5 behaviours, namely 1) Child Attention on Task, 2) Child Enjoyment with Activity, 3) Child Antisocial Behaviour, 4) Child Social Responsiveness, and 5) Child Global Functioning. Following the inter-rater reliability exercise, subsequent reliability checks on the CGCS were conducted every three months until May 2004. Details on inter-rater reliability

outcomes for the CGCS are provided below (Table 4). A final version of the CGCS is also provided in Appendix I1.

5.4.1.4. Procedures for coding parent-child videotaped observations

a) Observation coders

All 86 parent-child videotaped observations that comprise the sample of this study were rated by the author. As mentioned earlier, these observations were randomly selected from three cohorts of the PALS project. Throughout the coding process, the author remained blind as to the condition of the groups – i.e. whether they were treatment or comparison/control, and to the time point – i.e. whether they were pre-treatment/comparison period (time 1) or 6 months follow-up (time 3). Out of the 86 observations 78 correspond to matching pairs of observations from time 1 and time 3, where 39 dyads had been allocated to the treatment group and the other 39 dyads to the comparison/control group.

b) Observation Time Period

The time period chosen for coding using the direct observation global measure of attachment-related parenting (i.e. CARP), was per task. As there were 3 tasks with a set duration each (see above), coding using this scheme consisted in giving a total of 6 global ratings (see Appendix F1) following the entire duration of each task. Therefore, global CARP ratings (e.g. Sensitive Responding) were given following 10 minutes of Free-Play, 10 minutes of Lego, and 5 minutes of Tidy-Up. These time periods were used so that global judgements could be made on the quantity, quality, and intensity of attachment-related patterns of parent-child interaction during specific tasks designed to elicit different parenting and child behaviours considered relevant to the changes targeted in the intervention. The CARP's global categories attempt to capture relational, emotional and dyadic-based processes that require examination of both verbal and non-verbal behaviours as well as characteristics of the social context in which the parent-child interaction takes place. To capture such level of complexity and summarise across behaviours during a whole task, the time periods chosen were thought appropriate whereas a shorter time period (e.g. 30-second intervals) would not be viable (Lindhal, 2001; Gardner, 1987). Equally unfeasible are longer time periods (e.g. 1 hour) for

coding given the extremely large quantity of information to be examined, and the much higher level of inference needed to provide a global rating following such long observation period (Aspland, 2001; Patterson, 1982). Higher levels of inference would greatly compromise the quality of the data due to increased measurement bias (Kerig & Lindhal, 2001). In this study, the time periods adopted to code using the CARP (i.e. per task), were also adopted when using macro-ratings to code parent and child behaviour (i.e. Parent and Child Global Coding Schemes), as well as micro-ratings to code every occurrence of specific parental behaviours (i.e. Parent Behaviour Coding Scheme). Whereas the CARP, PGCS, and the CGCS are macroanalytic systems, the PBCS is a microanalytical system. Therefore, both types of system adopt a different approach to the sampling of behaviours. This is further discussed next.

c) Sampling behaviour

As explained earlier (see section 4.1.3.3. above), two main sampling methods were used in this study: global and event-sampling. The CARP, PGCS and the CGCS are measures that use global ratings whereas the PBCS uses frequency ratings. In contrast with all three macroanalytical systems above, the PBCS is used to rate the frequency of single specified behaviours (e.g. praises) occurring during each observation period (i.e. following each task). These types of sampling techniques have often been used in research (Aspland & Gardner, 2003) and in this particular study they are aimed at providing information regarding potential changes in patterns of parent-child relationship quality (e.g. increase in sensitive responding) and in exact amounts of particular behaviours (e.g. increase in praises) as a result of the parenting programme.

d) Inter-rater reliability

Before the coding of the data for this study started, a total of 20 other observations were coded for inter-rater reliability purposes. Out of these 20 observations, 8 were randomly selected from the larger PALS project (Scott & O'Connor, 2001) parent-child observational data, 3 from the "Supporting Parents on Kids Education" (SPOKES) project (Scott & Sylva, 2001), and 9 from the "Video Treatment Standardised Treatment" (VTST) project (Scott et al., 2001a). Inter-rater reliability was established between the author and a researcher of the PALS team using the four observational measures developed in this study – i.e. Coding of Attachment-Related Parenting

(CARP), Parent Behaviour Coding Scheme (PBCS), and Parent and Child Global Coding Schemes (PGCS and CGCS).

In this reliability exercise, videotaped observations were played on a TV screen for coding of parent-child interaction. For each observation, both coders produced and used transcripts (Appendix M1) to increase coding accuracy. In other words, with the use of transcripts, potential coding difficulties due to poor sound quality were avoided. These transcripts consisted of all parental verbalisations that occurred during the observation period, throughout the three play tasks: Free-play, Lego, and Tidy-up. Child verbalisations were excluded, as these were not targeted for coding. The author was responsible for producing 10 transcripts out of the 20 observations rated and the second coder produced the other 10. Exposure by both coders to half of the observations prior to their coding was therefore inevitable. However, the coding of each parent-child interaction could not rely entirely on the transcripts – instead, careful observation of each videotaped task had to be conducted, as scoring of parental utterances was heavily dependent on specific details of the parent-child interaction (e.g. facial expressions, tone of voice, etc) (see examples of score sheets in Appendices N1-N2b).

e) The coding process

All 86 videotaped parent-child interactions used in this study were coded using "The Observer Video Pro", a computer software package by Noldus (2002). To code using this technology, training was provided to the author by Tracksys Ltd., distributor of Noldus software in the UK. The coding process consists in having each videotaped observation encoded as an MPEG-1 file (a high quality compressed digital video format) and written to a CD-ROM. When playing each CD-ROM in the computer, the digital video is displayed using the Observer Video-Pro software. The system allows the coding of behaviour with the use of a customised keypad with all parent and child codes already pre-defined and an event-recording screen customised so that the video image is visible while coding the observation. The coder is able to rate every occurrence of a particular behaviour (i.e. event-coding) or give a single rating at the end of the entire interaction (i.e. global coding). The high sound and image resolution provided means that the need for transcripts – an extremely time-consuming task - is avoided. Given its comparative advantages with the use of videotapes, this system was adopted to code the entire sample for this study. As explained above, the 'standard' method of measuring

observed behaviour (i.e. use of videotapes) was adopted in this project for the initial inter-rater reliability exercise only. Following the reliability stage, regular coding of observations consisted in using "The Observer" system for the event-coding of parental verbalisations – i.e. parental behaviours targeted for coding by the PBCS, and for global coding of parent and child verbal and nonverbal behaviours displayed throughout the interaction – i.e. parent and child dimensions targeted for coding by the CARP, PGCS, and the CGCS. "The Observer" system has proven successful not only with trained observers (i.e. professional coders) but also with untrained observers (i.e. parents of children with behaviour problems) (Budenberg, Symons, & Smith, 1998).

Event-coding of parental verbalisations was initially carried out for each observation, followed by global coding of parental and child verbal and nonverbal behaviours. The pair of each observation was coded at least 3 to 4 weeks after the previous one to avoid (1) recognition of certain features of the observations that could potentially de-blind the coder to the time point (e.g. awareness as to whether the child was older or younger than when first observed and therefore making it obvious whether the parent-child interaction being rated was recorded at time 1 or time 3) and (2) remembering the scores initially given to a dyad and potentially allowing this knowledge to contaminate the scoring of the same dyad when observed second time around.

f) Preventing observer drift

Following the establishment of inter-rater reliability, and throughout the coding of the 86 videotaped interactions that constitute the sample of the present study, the author attended weekly meetings with a team of coders where the CARP, PBCS, PGCS, and the CGCS were used in the coding of randomly selected observations. All coders were trained in the use of "The Observer" system to rate observed behaviour. Following the coding of previously selected observations, scores given were discussed by all team members. A gold standard for each code was agreed with the assistance of the PhD supervisors (which were also the PALS leading investigators). A written record of the outcome of such meetings was kept for further consultation and revision (Appendix O1). The main purpose of these meetings was to prevent observer drift throughout the study, to provide continuous training in the use of the observational measures developed for use in this project, and also to improve reliability between coders.

5.5. Ethical approval and ethical issues

Ethical approval for this study was granted (No. 131/01).

All data used in this study was obtained through previous consent by parents who participated in the main project. To assure anonymity of participants involved, every observation whether recorded through videotape or CD-ROM, only had an ID number as an identification feature. The same identification feature was used throughout the study for any data stored on computer.

CHAPTER 6. Results

This chapter is presented in the form of two main sub-sections. The first sub-section, titled Results – Part A: Study main findings includes the following: 1) Description of analysis strategy; 2) Descriptive analysis of the PhD sample; 3) Reliability; 4) Data Reduction; 5) Convergent and Divergent Validity; and 6) Examination of main hypotheses. Also presented are additional analyses regarding a) Variation in observed parent and child behaviour according to sample characteristics, b) Demographic predictors of change, and c) predicting change in child behaviour from change in parenting. The second sub-section, named Results - Part B: Ethnicity findings refers to an exploratory study of key parent and child outcomes of the three main ethnic groups that constitute the sample of this study.

6.1. Results - Part A: Study main findings

6.1.1. Analysis strategy

Parametric tests were used to conduct analyses and these require interval or ratio data, normality of distribution and homogeneity of variance. Normality of distribution and homogeneity of variance were checked examining skew and kurtosis of variables and using Box-Plots and P-P plots. Variables with skewness statistic greater than 2.00 (i.e. Neutral Attends, Positive Attends, Praise, Criticism, Mental State, Teach and Seek-Cooperation) were considered to differ significantly from normality (Miles & Shevlin, 2005). Where non-normal distributions were detected (see Appendix P1), transformation of data, i.e. Natural Logarithm Transformation was conducted[9] (Osborne, 2002). Comparisons of data obtained through different measurements required prior standardisation of values (i.e. Z-scoring of variables)[10]. For all variables, missing values were excluded from all analyses (Pett, 1997). Outcomes of statistical analyses performed on observational data[11] refer to results obtained across three observational tasks: Free-Play, Lego and Tidy-Up. Thus, analyses per task were not conducted as the present study was not set out to investigate parenting practices according to specific observational settings (i.e. different play tasks). All statistical analyses were conducted through the use of the Statistical Package for Social Sciences (SPSS), version 12.00.

6.1.2. Descriptive analysis of the PhD sample

The PhD sample comprised 86 parent-child observations (6 from Cohort 1, 45 from Cohort 2 and 35 from Cohort 3 randomly selected from the larger Primary Age Learning Skills (PALS) project (Scott & O'Connor, 2001) observational data set). Out of 86 observations conducted at pre-treatment, follow-up data were only available for 78 (i.e. of the 86 observations coded at baseline, 8 provided no follow-up data as 3 participants dropped out from the study, whereas technical problems of image/sound quality prevented the coding of the remaining 5 videotaped parent-child pairs).

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[9] Data transformations were required to improve normality but were however kept to a minimum (see notes by Osborne, 2002).

[10] Standardisation of variables was used only when running Correlations, Regressions, and PCA.

[11] I.e. Parent-Child observations measured with the use of the Coding of Attachment-Related Parenting (CARP), the Parent Behaviour Coding Scheme (PBCS), and the Parent and Child Global Coding Schemes (PGCS and CGCS).

Therefore, all statistical analyses at pre-treatment are based on 43 pairings in the Intervention group and 43 pairings in the Control group (i.e. 86 in total). For the 78 that provided data from pre-treatment and follow-up stages, statistical analyses are based on 39 pairings in the Intervention group and 39 pairings in the Control group.

In Table 3 below, the characteristics of the PhD sample are presented for each group: Intervention and Control. Differences in demographic data per group were calculated using independent T-tests for continuous variables and Chi-square tests for categorical variables. When using the Chi-Square statistic, for those variables where more than 25% of cells had an expected frequency of less than 5, the Fisher's Exact Probability Test was used instead of Chi, as the latter is sensitive to small expected frequencies (Dancey & Reidy, 2002).

Results are provided with mean values of the PhD sample being compared with mean values for the London Borough of Southwark, England and Wales.

Table 3 – PhD sample characteristics per group condition

Sample Characteristics	**Sample (n)**	**Intervention Group (n = 43)**		**Control Group (n = 43)**		**Mean Values for Southwark LB**	**Mean Values for England & Wales**
		M or % (n)	**SD**	**M or % (n)**	**SD**		
Child's Age (years)	*(n=86)*	5.12 *(n=43)*	0.25	5.04 *(n=43)*	0.42		
		T-Test (t=1.01; df = 84; p = 0.32)					
Child's Gender (%) Male[1]	*(n=86)*	60.5% *(n=26)*		48.8% *(n=21)*			51%
		Chi Test Fisher's Exact Test – p = .39; Cramer's V = .12					
Child's Ethnicity (%)[+]	*(n=84)*						
West African		44.2% *(n=19)*		48.8% *(n=20)*			*25%*
White British		18.6% *(n=8)*		14.6% *(n=6)*			*20%*
Black Afro-Caribbean		16.3% *(n=7)*		19.5% *(n=8)*			*20%*
Other Ethnicity		20.9% *(n=9)*		17.1% *(n=7)*			*20%*
		Chi Test Chi = 0.58 (p = .90); Cramer's V = .083					
No Child Siblings	(n=72)	1.70 *(n=33)*	0.92	1.54 *(n=39)*	0.72		
		T-Test t = 0.80; df = 70; p = 0.42;					
Parent's Age#	*(n=80)*	36.64 *(n=42)*	5.30	35.82 *(n=38)*	8.67	*34.1*	*38.7*

		T-Test t = 0.74; df = 78; p = 0.47;			
Parent's Education (%)	*(n=81)*				
Ended education before/by 16#		31.0% *(n=13)*	35.9% *(n=14)*	*24.4%*	*29.1%*
Technical qualification		52.4% *(n=22)*	51.3% *(n=20)*		
Higher degree		16.7% *(n=7)*	12.8% *(n=5)*		
		Chi Test Chi = .36 (p = .84); Cramer's V = .07			
Employment Status (%)	*(n=80)*				
Unemployed#		43.9% *(n=18)*	41.0% *(n=16)*	*6.2%*	*3.4%*
		Chi Test Fisher's Exact Test – p = .82; Cramer's V = .03			
Parent's Ethnicity (%)#	*(n=81)*				
West African		54.8% *(n=23)*	51.3% *(n=20)*	*16.1%*	*0.92%*
White British		21.4% *(n=9)*	20.5% *(n=8)*	*52.2%*	*87.5%*
Black Afro-Caribbean		16.7% *(n=7)*	23.1% *(n=9)*	*8.0%*	*1.1%*
Other Ethnicity		7.1% *(n=3)*	5.1% *(n=2)*	*9.4%*	*3.4%*
		Chi Test Chi = 0.61 (p = 0.90); Cramer's V = .09			
Caregiver in Observation (%)	*(n=86)*				
Mother		95.3% *(n=41)*	76.7% *(n=33)*		
Father		2.3% *(n=1)*	18.6% *(n=8)*		
Grandmother		2.3% *(n=1)*	4.7% *(n=2)*		
		Chi Test Chi = 6.64 (p = **0.04**); Cramer's V = .28			
Household Income per week (%)	*(n=81)*				
≤£175/week ĵ		38.1% *(n=16)*	41.0% *(n=16)*		*5%*
£176-£325/week		38.1% *(n=16)*	33.3% *(n=13)*		
≥£326/week		23.8% *(n=10)*	25.6% *(n=10)*		
		Chi Test Chi = 0.20 (p = 0.91); Cramer's V = .05			

Housing Situation (%)#	*(n=82)*				
House/Flat owned/rented		23.3% *(n=10)*	10.3% *(n=4)*	42.5%	76.9%
Council House/Flat		76.7% *(n=33)*	89.7% *(n=35)*	53.5%	19.2%
		Chi test Fisher's Exact Test – p = .15; Cramer's V =			
Marital Status (%)	*(n=85)*				
Married[ǂ]		55.8% *(n=24)*	52.4% *(n=22)*		*38%*
Cohabiting[ǂ]		16.3% *(n=7)*	0.0% *(n=0)*		*38%*
Lone Parent[ǂ]		27.9% *(n=12)*	47.6% *(n=20)*		*22%*
		Chi test Chi = 9.08 (**p = 0.01**); Cramer's V = .33			
Separation Status (%)	*(n=85)*				
Not separated		55.8% *(n=24)*	52.4% *(n=22)*		
Separated		44.2% *(n=19)*	47.6% *(n=20)*		
		Chi test Chi = 0.10 (p = .75); Cramer's V = .03			

[ǂ]Mean values for England & Wales obtained from Social Trends London: Office of National Statistics, 2000, 2004;
┼Child Ethnicity data refers to all children under 16 years of age in Great Britain (Census, 2001, Office for National Statistics)
Mean values for Southwark LB and England & Wales obtained from Census 2001: Office for National Statistics.

Table 3 indicates that this is an ethnically diverse sample, with more than half of parents (53.1% - 43 out of 81) being of West African origin. In terms of parental education, 52.8% (42 out of 81) gained technical qualifications, 33.3% (27 out of 81) left school before/by 16, and 14.8% (12 out of 81) obtained higher degrees. Regarding parental income, 39.8% (32 out of 81) are of lower income with earnings of £175 per week or less, followed by 35.8% (29 out of 81) earning from £176 to £325 per week, and with the remaining 24.7% (20 out of 81) having the highest earnings of £326 per week or more. In terms of housing situation, 82.9% (68 out of 82) of parents live in council flats/houses, and unemployment is high with 42.5% (34 out of 80) of parents without a job, as is the percentage (45.9% - 39 out of 85) of parental separation from previous partners. There were no significant differences between intervention and control groups on any demographic variable except for 1) Marital Status, with the control group having a significantly higher percentage of lone parents (47.6%) in comparison to the intervention group (27.9%), and not including cohabiting parents compared to 16.3% included in the intervention group (Chi = 9.08. - p = .01, Cramer's

V = .33), and 2) the caregiver that was observed, with the intervention group having a slightly higher percentage of mothers (95.3%) observed than the control group (76.7%) and a much smaller percentage of fathers (2.3%) observed compared to the control group (18.6%) (Chi = 6.64 - p = 0.04, Cramer's V = .28).

6.1.3. Reliability

6.1.3.1.Inter-rater reliability

Inter-rater reliability for the observational parent and child coding schemes was assessed by running Intraclass Correlation Coefficients (ICC). Pearson's product moment correlations were not used to calculate reliability as they are insensitive to differences in level between two observers, i.e. if one observer consistently records a higher level of a specific behaviour than the other observer, then a high correlation would be obtained, even if the observers are actually in disagreement. In comparison to Pearson correlations, when calculating reliability among multiple coders, ICC has the advantage of controlling for any systematic bias among raters (Lindhal, 2001). The use of ICC was also considered more appropriate as the data collected in this study are continuous rather than categorical, with behaviours being measured as frequency counts (i.e. PBCS) or global ratings (e.g. CARP). The use of a Kappa coefficient would not be suitable as it can only be used on categorical data (Aspland, 2001).

Prior to the coding of the 86 parent-child observations, 20 others (8 from the PALS project, 3 from the SPOKES (Scott & Sylva, 2001) project, and 9 from the VTST (Scott et al., 2001a) project were randomly selected and used for analysis of inter-rater reliability. Inter-rater reliability was assessed for all individual parent and child codes before combined scores were created. The ICC coefficient used was the single measure of Intra-class correlation as each one of the tests used in the study (i.e. schemes) was administered only once to each subject (i.e. parent-child pairs) at each specific time point (i.e. pre-treatment and follow-up) (Miaofen & Li-Hua, 2002). Although there hasn't been a simple answer to what constitutes good agreement, the main recommendation followed was that ICC values indicating good reliability for individual measurement would range between .70 and .90, as values lower than .70 would indicate heterogeneity and values higher than .90 indicate possible redundancy in the items. Minimum standards for acceptable reliability are however indicated by Leese and colleagues (Leese, White, Schene, Koeter, Ruggeri, & Gaite, 2001) with values above .40 up to .60 indicating "fair" agreement, .61 to .80 indicating "moderate" agreement and, values between .81 and 1.0 indicating "substantial" agreement between observers (Wolf, 2003; Leese et al., 2001).

In Table 4 below, inter-rater reliability results for the Coding of Attachment- Related Parenting (CARP), the Parent Behaviour Coding Scheme (PBCS) and the Parent and Child Global Coding Schemes (PGCS and CGCS) are presented. In addition to providing information on agreement between raters (ICC values), stability coefficients are also provided as this is a study in which assessment of parent and child behaviour has been conducted at two different time points – pre-intervention stage or time 1 and follow-up stage or time 3. It was therefore necessary to establish the extent to which the measures used were reliable throughout time. Thus, reliability coefficients assessing the stability of each measure between both time points were calculated (see section 6.1.3.2. below). In Table 4, means and standard deviations for each parent and child measure were also provided. In addition to information on all observational measures, Table 4 also describes the psychometric properties of all other measures (report and doll-play) used in the study – i.e. Parental Report (PACS, GHQ, and PSOC), Parent and Teacher Questionnaire (SDQ) and Child Doll-play Task (MCAST) assessment procedures. A detailed description of these measures is provided in the Methods section (see above).

TABLE 4 – Description and psychometric properties of multi-method assessments of parent and child behaviour (1)

Parent & Child Measures	Constructs	Assessment Method	Measure Description	No Items/ scales	Instrument Range	Mean	(SD)	Reliability		Stability
								ICC	*Cronbach Alpha*	
Coding of Attachment-Related Parenting (**CARP**)	Sensitive Responding	Direct Observation	Global Scale		(1-7)	10.9	3.7	(.73)		(.66)
	Parent Positive Affect	Direct Observation	Global Scale		(1-7)	8.0	3.5	(.77)		(.61)
	Parent Negative Affect	Direct Observation	Global Scale		(1-7)	5.2	3.1	(.73)		(.47)
	Child Positive Affect	Direct Observation	Global Scale		(1-7)	8.7	3.5	(.79)		(.54)
	Child Negative Affect	Direct Observation	Global Scale		(1-7)	5.3	2.6	(.75)		(.41)
	Parent-Child Mutuality	Direct Observation	Global Scale		(1-7)	8.7	3.4	(.81)		(.48)
Parent Behaviour Coding Scheme (**PBCS**)	Alpha Command	Direct Observation	Frequency Counts		(15-167)	65.6	36.1	(.95)		(.57)
	Beta Command	Direct Observation	Frequency Counts		(0-34)	9.4	7.0	(.93)		(.18)
	Seek-Cooperation†	Direct Observation	Frequency Counts		(0-3.2)	1.2	0.8	(.19)		(.61)
	Chain Commands╪	Direct Observation	Frequency Counts		(5-172)	44.6	31.2	-		(.56)
	Comply	Direct Observation	Frequency Counts		(16-165)	67.3	35.1	(.97)		(.59)
	Non-Comply	Direct Observation	Frequency Counts		(0-49)	11.4	10.3	(.97)		(.53)
	Neutral Attend†	Direct Observation	Frequency Counts		(0-4.1)	2.1	0.9	(.70)		(.47)
	Positive Attend†	Direct Observation	Frequency Counts		(0-3.8)	1.7	0.9	(.86)		(.35)
	Praise†	Direct Observation	Frequency Counts		(0-3.5)	1.4	0.9	(.53)		(.36)
	Criticism†	Direct Observation	Frequency Counts		(0-4.6)	1.0	1.1	(.76)		(.52)
	Prohibition	Direct Observation	Frequency Counts		(1-100)	26.2	20.9	(.98)		(.44)
	Interrogative	Direct Observation	Frequency Counts		(1-76)	26.5	17.5	(.93)		(.64)
	Facilitation	Direct Observation	Frequency Counts		(0-48)	12.9	10.7	(.75)		(.50)
	Mental State†	Direct Observation	Frequency Counts		(0-2.4)	0.6	0.7	(.35)		(.50)
	Teach†	Direct Observation	Frequency Counts		(0-2.1)	0.1	0.3	(.72)		-

†Logged variable ╪(Composite of alpha and beta impossible to comply with)

TABLE 4 – Description and psychometric properties of multi-method assessments of parent and child behaviour (2)

Parent & Child Measures	Constructs	Assessment Method	Measure Description	No Items/ scales	Instrument Range	Mean	(SD)	Reliability		Stability
								ICC	*Cronbach Alpha*	
Parent & Child Global Coding Schemes	Parental Intrusiveness	Direct Observation	Global scale		(1-7)	8.2	3.7	(.75)		(.61)
	Child Attention on Task	Direct Observation	Global scale		(1-7)	17.6	2.5	(.69)		(.48)
	Child Enjoyment with Activity	Direct Observation	Global scale		(1-7)	9.4	3.1	(.73)		(.61)
	Child Antisocial Behaviour	Direct Observation	Global scale		(1-7)	5.0	2.6	(.82)		(.51)
	Child Social Responsiveness	Direct Observation	Global scale		(1-7)	10.8	4.5	(.75)		(.53)
	Child Global Functioning	Direct Observation	Global scale		(1-7)	12.2	3.2	(.77)		(.52)
Parent Account of Child Symptoms (**PACS**)	Child Conduct Problems	Interview	Composite score	8	(0-3)	0.8	0.5	(.89)	(.85)	
	Child Hyperactivity Problems	Interview	Composite score	5	(0-3)	0.5	0.4	(.81)	(.75)	
Parenting Interview – Adapted from Quinton et al (1984)	Communication with Child	Interview	Overall rating	1	(0-4)	2.2	1.0			
	Overall Criticism	Interview	Overall rating	1	(0-4)	1.1	0.9			
	No Times Praises Child	Interview	Item	1	(0-4)	2.0	1.0			
	No Times Smacks Child	Interview	Item	1	(0-4)	0.8	1.1			
	Sensitivity	Interview	Overall rating	1	(0-4)	2.1	0.7	(.60-.97)		
	Likes child	Interview	Overall rating	1	(0-4)	2.7	0.9			
	Disciplinary Aggression	Interview	Overall rating	1	(0-5)	1.6	1.0	(.60-.97)		

TABLE 4 – Description and psychometric properties of multi-method assessments of parent and child behaviour (3)

Parent & Child Measures	**Constructs**	**Assessment Method**	**Measure Description**	**No Items/ scales**	**Instrument Range**	**Mean**	**(SD)**	**Reliability**		**Stability**
								ICC	*Cronbach Alpha*	
Strength & Difficulties Questionnaire (**SDQ**) – Parent Version	Child Conduct Problems	Questionnaire	Composite score	5	0-10	1.6	1.7	(.37)	(.63)	(.64)
	Child Hyperactivity Problems	Questionnaire	Composite score	5	0-10	3.5	2.6	(.48)	(.77)	(.72)
	Child Deviance Score	Questionnaire	Composite score	20	0-40	8.4	5.8	(.46)	(.82)	(.72)
	Child Pro-Social Behaviour	Questionnaire	Composite score	5	0-10	8.6	1.6	(.25)	(.65)	(.61)
Strength & Difficulties Questionnaire (**SDQ**) – Teacher Version	Child Conduct Problems	Questionnaire	Composite score	5	0-10	0.9	1.6	(.37)	(.74)	(.69)
	Child Hyperactivity Problems	Questionnaire	Composite score	5	0-10	2.9	2.8	(.48)	(.88)	(.82)
	Child Deviance Score	Questionnaire	Composite score	20	0-40	6.6	6.0	(.46)	(.87)	(.80)
	Child Pro-Social Behaviour	Questionnaire	Composite score	5	0-10	7.2	2.4	(.25)	(.84)	(.74)
General Health Questionnaire (**GHQ**)	Total GHQ Score	Questionnaire	Composite score	12	0-36	9.0	4.0		(.82-.86)	
Parenting Sense of Competence (**PSOC**)	Total PSOC Score	Questionnaire	Composite score	17	1-85	59.3	9.8		(.79)	
Manchester Child Attachment Story Task (**MCAST**)	Coherence	Doll-Play	Composite score	4	(1-9)	4.1	1.5	(.85)	(.51)	
	Disorganisation	Doll-Play	Composite score	2	(1-9)	2.7	2.1	(.76)	(.70)	
	Insecurity	Doll-Play	Composite score	5	(0-5)	1.7	1.4	-	-	

In terms of the reliability of the direct observation parent and child measures, Table 4 shows that most of the constructs had ICC's equal to or over .70 indicating moderate to substantial agreement between two raters on each individual parent and child measure. Whereas Child Attention on Task (CAT) presented a moderate ICC value of 0.69, fair agreement was established for Praise (ICC = .53). Seek Cooperation and Mental State however, presented only slight agreement with ICC values of .19 and .35 respectively.

Following the reliability exercise, deciding on which observational codes to drop from further analyses was dependent on whether the code was 1) unreliable, 2) had very low frequency, and 3) was of minimal theoretical relevance for the purpose of this study. According to this set of decisions, Seek-Cooperation and Mental State were dropped as they were found to be unreliable. Teach was also dropped. Although inter-rater reliability was acceptable, this code occurred so infrequently that it was agreed that it would add very little to the findings of the study. As for the category Praise, although reliability was relatively modest, this was not excluded from subsequent analyses. The inclusion of Praise is of theoretical relevance to the study. It is a measure of child-centred behaviour often targeted for change in intervention studies (e.g. McMahon & Forehand, 2003). Also, as indicated by Principal Component Analysis (PCA) and correlations (see section 6.1.4. below), Praise was found to be positively and highly correlated with both Neutral and Positive Attends (see Table 7 below). These are all conceptually similar measures of child-centred behaviour. Following PCA (section 6.1.4.2. below), a composite code – Parental Attending - integrating Praise, Neutral Attends, and Positive Attends was created. Other research has identified and adopted similar measures of child-centred behaviour, with positive attending towards the child corresponding to a reliable construct (Webster-Stratton & Herbert, 1996).

In addition to observation measures, all other parent and child measures used in the study also presented good reliability as well as good stability. Further details on the stability of the observational measures developed in this study are presented next.

6.1.3.2. Stability

Stability refers to the relationship between data collected from observing the same individual(s) on different time points. If a coding scheme is able to produce consistent results across observations for the same individual(s) it is considered to demonstrate stability. The fact that "*few coding schemes have been subjected to evaluations of stability across sessions*" (Aspland & Gardner, 2003, pg. 139), highlights the importance of establishing the stability of the measures used in this study.

Examination of stability therefore, involves re-administration of the same test to the same group of individuals with a time interval between testings. The correlation coefficient between the two sets of scores is a stability coefficient (Wolf, 2003). A commonly used method for calculating stability is to use Pearson's product moment correlations between the test and the re-test scores. However, this approach has limitations such as leaving systematic errors undetected even when large correlation coefficients are obtained (Miaofen & Li-Hua, 2002). A better alternative is the use of ICC as it reflects the magnitude of existing errors, leading to a more accurate estimate of reliability.

In this study however, between the two measurement time points (i.e. pre-treatment and follow-up at 6 months after intervention ended) a parenting programme was administered to parents in the Intervention group. Because parenting behaviour that was measured prior to and after the parenting programme was targeted for change, consideration of the potential effect of the intervention had to be taken into account. Therefore, when using both intervention and control groups stability of the measures used in the study was calculated using regression analysis with time 3 (follow-up) parent behaviour entered as the dependent variable, and the same parent behaviour at time 1 (baseline) and condition entered as the independent variables. In regression, the standardised beta coefficient corresponds to the correlation between parent behaviour at time 1 and parent behaviour at time 3 but controlling for the effect of condition/group (Miles & Shevlin, 2005). Besides regression, stability was also calculated using ICC's and Pearson correlations between the same parent behaviours at time 1 and time 3. Using these methods, stability was calculated for both groups (i.e. intervention and control), and for the control group only (i.e. where no intervention took place). Comparison of stability results across calculation method and for both groups vs. controls only allows a

consideration of how robust findings are. Furthermore, with this strategy it is possible to examine whether comparative to the intervention group, controls offered better stability outcomes. This is expected due to potential changes in parenting only affecting the intervention group as a result of the parenting programme.

All individual and composite parent and child measures (see Table 12 in section 6.1.4.2. below) used at both time points were subjected to the analysis of stability with results presented in Table 5 below.

Table 5 – Stability of direct observation measures of parent and child behaviour

	Measurement Stability Calculation Methods				
Parent & Child Direct Observation Measures	**Both Groups** – Controlling for T1 & Condition (N = 78)	**Both groups** - Irrespective of Condition (N=78)		**Control group** only (N=39)	
	Regression	**ICC**	**Pearson Correlation**	**ICC**	**Pearson Correlation**
Sensitive Responding	.66**	.65**	.65**	.66**	.68**
Parent Positive Affect	.61**	.59**	.60**	.71**	.72**
Mutuality	.48**	.46**	.46**	.61**	.60**
Parent Negative Behaviour†	.63**	.62**	.62**	.64**	.64**
Clear Commands†	.57**	.57**	.58**	.52**	.54**
Chain Commands╪	.56**	.54**	.56**	.60**	.62**
Parental Attending†	.47**	.45**	.45**	.46**	.51**
Beta Commands	.18 (n.s)	.17 (n.s.)	.20 (n.s.)	.40**	.41**
Criticism	.52**	.36**	.52**	.49**	.30 (n.s.)
Child Attention on Task	.48**	.41**	.47**	.45**	.47**
Child Positive Affect	.54**	.50**	.50**	.62**	.65**
Child Social Responsiveness	.53**	.51**	.53**	.63**	.63**
Child Negative Behaviour†	.64**	.61**	.64**	.71**	.73**

†Composite measures of direct observation following PCA; ╪Composite of alpha and beta impossible to comply with
**p<.01

Table 5 shows that when using regression, all observation parent and child measures presented fair to moderate agreement (r's ranging from 47. to .66, all p's < .01) with the exception of Beta Commands (r = .18, p>.05). ICC values and results of correlations for Time 1 and Time 3 irrespective of condition showed a similar pattern of results to that of

Regression, with all r's ranging from .41 to .65 (all p's <.01), except for Criticism (r = .36, p<.01), and Beta Commands (r = .20, p>.05). It is clear however, that when comparing ICC and Pearson correlations for each (same) measure, ICC's were somewhat lower than the correlation value. These lower values reflect the existence of systematic errors identified by ICC, something not detectable by Pearson's correlations (Miaofen, & Li-Hua, 2002).

As expected, compared to stability results using both groups, overall slightly higher stability outcomes were obtained in the control group only. This was particularly the case for the codes of Mutuality and Beta Commands. Whether using correlation or ICC, and with the exception of the correlation result for Criticism (r = .30, p>.05), overall values indicated fair to moderate agreement (r's ranging from .40 to .73 and all p's <.01), indicating overall good consistency from Time 1 to Time 3.

In summary, results indicated overall good stability of the observation measures developed in this study (Wolf, 2003).

6.1.4. Data reduction

Two main statistical strategies were used to facilitate reduction of the large number of observational measures – Pearson's product moment correlations and Principal Component Analysis (PCA). These are discussed in turn.

6.1.4.1. Correlations of parent-child measures

Correlations of parent/child behaviours within each coding scheme were conducted to consider the extent to which each one of the constructs measured would associate with each other. It was expected that conceptually similar constructs would associate highly with one another. However, decisions on what constructs to measure individually or in conjunction with others (i.e. combined scores) did not simply rely on the outcomes of correlations and PCA. Instead, the theoretical basis underlying the constructs being measured was prioritised when making such decisions. So, for example, in the case of the measure of Sensitive Responding, which relies on strong theoretical and evidence-based criteria (Ainsworth et al., 1978; Belsky, 1999; Cassidy & Shaver, 1999), although it was expected to highly overlap with other attachment-based constructs (e.g. Mutuality), its use as a single measure of attachment-related parenting was crucial to the aims of the study. Therefore, the use of correlations and PCA in this study was more informative/exploratory rather than confirmatory in that a final decision on how to define constructs was not simply statistically driven (i.e. based solely on information regarding strength of statistical association between constructs).

Table 6 below presents the correlations between observed parental behaviour within both global measures of parenting - the CARP and the PGCS, whereas Table 7 presents correlations between observed parental behaviour within the frequency-count measure of parenting - the PBCS. Finally, Table 8 presents the correlations between observed child behaviour as measured globally by the CGCS and on a frequency-count basis by the PBCS.

Table 6 - Correlations between observed parent behaviour within two global measures of parenting – the CARP and the PGCS

	Sensitive Responding	Parent Positive Affect	Parent Negative Affect	Mutuality	Parental Intrusiveness
Sensitive Responding					
Parent Positive Affect	0.70**				
Parent Negative Affect	-0.46**	-0.32**			
Mutuality	0.75**	0.64**	-0.40**		
Parental Intrusiveness†	-0.42**	-0.31**	0.33**	-0.31**	

(N = 86) †Individual global measure of the PGCS
****p<.01**

Results in Table 6 indicate that all attachment-related constructs (i.e. Sensitive Responding, Parent Positive Affect, and Mutuality) were highly associated with correlations of .70 or higher (all p's <.01). Whereas these are theoretically related constructs, parent intrusiveness and parent negative affect are conceptually different from the attachment-related codes as suggested by the negative associations obtained.

Table 7 - Correlations between observed parent behaviour within the frequency count measure of parenting (PBCS)

	Alpha Commands	Beta Commands	Prohibition	Chain Commands	Interrogative	Facilitation	Criticism	Neutral Attends	Positive Attends	Praise
Alpha Commands										
Beta Commands	0.28**									
Prohibition	0.71**	0.32**								
Chain Commands	0.82**	0.25*	0.68**							
Interrogative	0.22*	0.15	0.17	0.27*						
Facilitation	0.06	0.35**	0.09	-0.01	0.27*					
Criticism	0.35**	0.22*	0.46**	0.43**	-0.05	-0.21				
Neutral Attends	0.21	-0.03	0.22*	0.21	0.51**	0.22*	-0.07			
Positive Attends	0.24*	0.23*	0.19	0.17	0.42**	0.46**	-0.21*	0.40**		
Praise	0.20	0.03	0.29**	0.18	0.40**	0.10	-0.07	0.37**	0.41**	

(N = 86) *p<.05; **p<.01

Results in Table 7 indicate high positive associations between Alpha commands, Prohibitions, Chain Commands and Compliance, with correlations of .71 or higher (all p's <.01). These are similar constructs insofar as they measure specific types of directives and whether these are complied with or not. All other constructs presented moderate to low correlations indicating their relative independence from one another.

Table 8 - Correlations between observed child behaviour as measured globally by the CGCS and on a frequency-count basis by the PBCS

	Child Positive Affect	Child Negative Affect	Child Attention on Task	Child Enjoyment with Activity	Child Antisocial Behaviour	Child Social Responsivenes	Child Global Functioning	Non-Comply	Comply
Child Positive Affect†									
Child Negative Affect†	-0.08								
Child Attention on Task	0.00	-0.53**							
Child Enjoyment with Activity	0.71**	-0.07	0.11						
Child Antisocial Behaviour	-0.05	0.84**	-0.52**	0.00					
Child Social Responsiveness	0.64**	-0.10	0.13	0.62**	-0.14				
Child Global Functioning	0.70**	-0.37**	0.33**	0.65**	-0.36**	0.82**			
Non-Comply±	-0.02	0.55**	-0.32**	0.23*	-0.10	-0.07	0.21		
Comply±	0.07	-0.10	0.14	0.05	0.64**	0.13	-0.20	0.29**	

(N = 86) †Child Positive Affect – CARP Measure; Child Negative Affect – CARP Measure; ± Non-comply – PBCS Measure; Comply – PBCS Measure.
***p<.05; **p<.01**

Results in Table 8 indicate that highly associated constructs were Child Enjoyment with Activity (CEA), Child Positive Affect (CPA), Child Social Responsiveness (CSR), and Child Global Functioning (CGF), with correlations of .70 or higher (all p's <.01). These codes refer to interrelated aspects of positive child behaviour. On the other hand, Child Antisocial Behaviour (CAB) highly associated with Child Negative Affect (CNA) (r = .84, p<.01), indicating that both constructs are capturing similar aspects of child negative behaviour.

6.1.4.2. Principal Component Analysis

By examining the correlations above, it is possible to detect which parent and child measures are most associated with one another, and therefore identify potential patterns in the data. However, such methods per se can be very subjective and rather unreliable (Dancey & Reidy, 2002). Another method of examining patterns of correlations, which will in turn aid in reducing the large number of variables into a smaller set, is Principal Components Analysis (PCA). The method of rotation chosen when performing PCA was the varimax method, the goal of which is to maximise high correlations and minimise low ones. This technique helps interpretation, as differences in the loadings (of the variables within each factor) are emphasised (Dancey & Reidy, 2002).

PCA was used to establish the factor structure of each of the four measures of direct observation: the Coding of Attachment-Related Parenting (CARP), the Parent Behaviour Coding Scheme (PBCS), the Parent Global Coding Scheme (PGCS), and the Child Global Coding Scheme (CGCS). As the focus of measurement concentrated on two main dimensions of parenting – attachment-related and social learning based parenting, as well as on the method of assessment (global scales versus frequency counts) the decision was taken to use PCA for all attachment-related and global measures of parenting (i.e. Parental Intrusiveness) on the one hand, and PCA for social learning event-coded parenting on the other hand. In addition, the use of PCA was necessary to establish the factor structure of all child observation measures. Although child behaviour was assessed by both global scales and frequency counts, all measures were entered into a single PCA irrespective of method of assessment. This was justified as these are conceptually similar constructs whether measured by Likert-type scales or frequency counts (e.g. Child Antisocial Behaviour and Child Non-Compliance). Factor loadings will therefore aid in establishing what composite measures can be created in order to reduce the large amount of child measures.

a) Establishing the factor structure of the Coding of Attachment-Related Parenting (CARP): Theoretical/methodological considerations

As discussed previously, this study set out to develop a measure of attachment-related dimensions of parenting observable in everyday situations at home (i.e. play) in families of school-aged children, whose parents were offered a social learning based parenting programme. Three key attachment-related constructs were operationalised for measurement – Sensitive Responding, Parent Positive Affect, and Mutuality. Research has confirmed the interdependence between these constructs and established their association with main child outcomes (Deater-Deckard & O'Connor, 2000; Kochanska, 1997; van Ijzendoorn et al., 1992). Whereas Sensitive Responding has long been recognised as the core concept of Attachment Theory, playing a key role in the development of secure attachments in children (Belsky, 1999), other crucial dimensions often associated with the early development of positive parent-child emotional bonds are displays of positive affect from either parent or child, and the dyad's ability to positively engage with one another in a mutual, reciprocal, and shared manner (Kochanska et al., 1997; Beckwith et al., 2002). It was therefore of greater importance to this study to capture behavioural manifestations of Sensitive Responding (SR), Parent Positive Affect and Mutuality in parents and children, some of whom were trained in social learning based parenting skills. In other words, a primary goal of this study was to use Sensitive Responding, Parent Positive Affect and Mutuality as three individual constructs of attachment-related parenting. However, based on previous research (Rothbaum & Weisz, 1994) as well as on the pattern of correlations obtained above, following PCA these three measures were expected to highly load on a single factor (i.e. to represent the same underlying construct).

The factor structure of the CARP is presented in Table 9 below.

Table 9 - Factor structure of the Coding of Attachment-Related Parenting (CARP)

CARP Measures (N = 86)	Factor 1 - Parent Positive	Factor 2 - Parent Negative
Sensitive Responding	.84	
Parent Positive Affect	.87	
Mutuality	.86	
Parent Negative Affect		.78
Parental Intrusiveness‡		.86

‡ Individual global measure of the PGCS

On the basis of eigenvalues greater than .80[12], two factors were extracted for the CARP – "Parent Positive", and "Parent Negative" – which explain 76.7% of the variance in scores. These factors are shown in Table 9 above. Sensitive Responding (SR), Parent Positive Affect (PPA), and Mutuality (M) highly loaded (.84 or above) on the first factor "Parent Positive". This finding suggests that these three measures may refer to the same underlying construct. This is in accordance with other studies where aspects of responsiveness, displays of warmth, and the dyad's positive mutual involvement have positively loaded on factors referring to constructs of sensitivity or positive parenting (Rothbaum & Weisz, 1994; Ispa et al., 2004; Bernstein et al., 2005). Both socialisation and attachment research provide evidence for the extent to which these interdependent parenting dimensions similarly contribute to varied child outcomes ranging from attachment security, compliance, moral development, affect regulation, and child responsiveness (e.g. Biringen, 2000; Gardner, 1994; Kochanska & Murray, 2000; Dix, 1991). However, the overall tendency to collapse across these varied aspects of parental behaviour has been subject to some criticism (Goldberg et al., 1999a; Bugental, 2000; MacDonald, 1992). Although studies investigating the differentiation between these features of parenting are relatively few they have nevertheless provided support for the conceptual distinction between these dimensions. An example is the recent study by Davidou and Grusec (2006), which showed the independent contributions of responsiveness to distress and expressions of positive affect (which the authors conceptualised as warmth) to child socio-emotional outcomes in a sample of 6 to 8 year

[12] In this particular case, eigenvalues above .80 were chosen as 1) only one factor would be extracted if using eigenvalues above 1, and 2) at least 75% of the variance in scores should be explained by the factors extracted (Dancey & Reidy, 2002).

olds. Whereas responsiveness to distress significantly predicted children's empathic and pro-social behaviour, positive affect/warmth was not predictive of either of these child outcomes. Instead, warmth significantly predicted children's adaptive regulation of positive affect, whereas responsiveness to distress was not reliably predictive of this child outcome. These results are consistent with the notion that dimensions of responsiveness and positive affect/warmth are conceptually distinguishable, uniquely contributing to differential child outcomes. Also an aim of the present study was the investigation of the extent to which measures of sensitive responsiveness, positive affect, and mutuality may uniquely predict differential child outcomes. These measures were designed to tap specific/differentiated aspects of attachment-promoting parental behaviours. Individual measurement of each dimension not only prevents losing specificity but also attempts to uncover the unique effects of each feature of attachment-related parenting on varied child outcomes, a neglected area of research so far (Goldberg et al., 1999a; Davidou & Grusec, 2006). In light of these considerations, Sensitive Responding, Parent Positive Affect, and Mutuality remained as individual measures of attachment-related parenting to use in this study.

Both Parent Negative Affect (PNA) and Parental Intrusiveness (PI) highly loaded (.78 or above) on the second factor "Parent Negative". This finding is conceptually meaningful as both measures capture interrelated aspects of negative parenting, specifically negative mood, and intrusiveness. A composite score of parental negative behaviour including both measures would constitute a more comprehensive category as it allows to not only capture an individual characteristic that may directly affect parental behaviour per se (i.e. negative mood) but also an aspect of parental behaviour often elicited/displayed whilst interacting with children in structured tasks as the ones observed in this study (e.g. the need to control/dominate the child, lack of child-centredness, etc). A composite measure – Parent Negative Behaviour - combining Parent Negative Affect and Parental Intrusiveness was therefore created.

b) <u>Establishing the factor structure of the Parent Behaviour Coding Scheme (PBCS): Theoretical/methodological considerations</u>

From a social learning perspective, two main dimensions of parent behaviour were targeted for measurement in this study: child-directiveness and child-centredness. The distinction between child-directive vs. child-centred behaviour has often been used in intervention research (Webster-Stratton & Hancock, 1998; Scott et al., 2001a). In

particular, social learning based parenting programmes have often targeted these behaviours for change so that, following treatment there should be a reduction in parental child-directive behaviour and an increase in child-centred behaviour (Forehand & McMahon, 1981; Webster-Stratton et al., 2001). In this study, the operationalisation of the main constructs that fall into either category draws on existing definitions of both these dimensions of parenting widely researched and found to associate with main child outcomes such as antisocial behaviour (Webster-Stratton & Hooven, 1998; Scott et al., 2001a; Gardner, 1992). Specifically, child-directive behaviour refers to those parental verbalisations aimed at directing the child, telling him/her what to do, thus requiring the child to comply with parental requests, whereas child-centred behaviour focuses on parental verbalisations aimed at providing the child with descriptive commenting on his/her actions, positive remarks about his/her achievements (acknowledgements), and praising the child's personal attributes and/or behaviour. Examples of codes in the PBCS that clearly refer to a child-centred attitude are: Neutral and Positive Attends, and Praise. In turn, child-directive behaviour is measured by coding commands and prohibitions. In terms of directiveness however, another conceptual distinction that has been made in intervention research is the difference between clear and vague/ambiguous commands issued to the child (Forehand & MacMahon, 1981). Research has also indicated the differential impact of both these styles of directiveness on child behaviour, with clear commands being associated with better child outcomes than vague directives (Webster-Stratton & Herbert, 1996; McMahon & Forehand, 2003). Thus, the distinction between clear vs. vague commands has been a crucial feature of the parenting skills to be taught when implementing a social learning based parenting programme. In this study, alpha commands referred to clear directives whereas beta commands focused on vague directives. In addition to differentiating commands in terms of their level of clarity vs. ambiguity, this study set out to distinguish between directives that provide sufficient time for the child to comply with (within 5 seconds of their deliverance) and those that are delivered in a sequence not providing the child with the opportunity to comply with. Excessively directive parents are highly intrusive towards their children not providing them with autonomy granting opportunities, breaking their child's flow and minimising their child's sense of competence (Webster-Stratton & Hooven, 1998). Overintrusiveness has often been linked with disruptive behaviour, negative affect and child non-compliance (Gardner, 1992; Dowdney et al., 1984). Thus, better outcomes in children were expected to associate with clear commands than with vague commands or those delivered in a

sequence/string. Also, given these theoretical distinctions between child-centred and the various types of child-directive behaviour the emergence of factors reflecting these differences was expected. In particular, factors referring to four main dimensions were expected to emerge: child-centred, clear commands, chain commands and vague commands.

The factor structure of the PBCS is presented in Table 10 below.

Table 10 - Factor structure of the Parent Behaviour Coding Scheme (PBCS)

PBCS Measures (N = 86)	Factor 1- Child Centred	Factor 2 - Firm Commands	Factor 3 - Vague Commands
Alpha Commands		.84	
Prohibitions		.86	
Chain Commands		.85	
Criticism		.72	
Neutral Attends	.78		
Positive Attends	.64		
Praise	.72		
Interrogative	.72		
Beta Commands			.77
Facilitation			.81

On the basis of eigenvalues above 1[13], three factors were extracted for the PBCS – "Child Centred", "Clear Commands", and "Vague Commands", which explain 68% of variance in scores. These factors are shown in Table 10 above. The first factor "Child Centred" indicated that Neutral Attends, Positive Attends, Praise, and Interrogative had moderate to high loadings (.63 - .79). Therefore, measures other than commands or criticism were combined into one single factor. Whereas Neutral Attends, Positive Attends, and Praise are conceptually similar measures as they capture parental verbal behaviour that is child-centred, whether this is praising the child, commenting on his/her activities, or acknowledging the child's actions, Interrogative falls into the category of parental questions that are intended to extract factual information from the child not relevant to the play activity. Therefore, Interrogative is a measure of intrusiveness rather than of a child-centred attitude. On a conceptual basis, and as explained above, it was decided that a final measure of child centredness - Parental

[13]In this particular case, only eigenvalues above 1 were chosen as eigenvalues of .70 or above would have been needed in order to obtain a factorial structure that explained at least 75% of variance in scores and thus resulting in an excess of factors to retain, and not all theoretically relevant.

Attending – should only be a composite of Neutral Attends, Positive Attends, and Praise, with Interrogative being dropped from further analyses.

The second factor "Firm Commands" indicated that Alpha commands, Prohibitions, Chain Commands and Criticism highly loaded (.72 or above) on this factor. The measures with the highest loadings (.84 - .86) were the commands, whether clear alpha commands possible to comply with, prohibitions, or commands (clear or vague) delivered as a string/sequence not giving the child the opportunity to comply within 5 seconds of their deliverance. Although impossible to comply with, it was clear from the observations carried out in the study that most of these string commands were clear and therefore still coded as alpha. Thus, the combination of this measure into one single factor representative of a single dimension of clear directives was conceptually meaningful. However, and as explained above, apart from the conceptual distinction between clear and vague directives, another crucial distinction considered was the differentiation between commands possible to comply with and those that do not provide the child with an opportunity to comply as they are given in a sequence/string. Within the context of the parenting programme, parents were specifically trained to not only direct their children in a clear, unambiguous manner but also to give each directive one at a time and not in a sequence so that the child is given sufficient time to comply. Thus, crucial constructs to independently keep in this study were clear directives and string commands as this would allow examining the extent to which each type of child-directive behaviour would change following the parenting programme and their differential impact on the child's behaviour. From this second factor of "Firm Commands" two individual dimensions were therefore selected – one of "Clear Commands" referring to the combination of both types of clear directives – alpha and prohibitions – and a separate dimension of "Chain Commands" referring to the combined score of alpha and beta commands delivered to the child in a chain/sequence not giving sufficient time for the child to comply.

As for criticism, this last code falls into a conceptually different category from directives, and a decision was therefore made to keep this coding category as an individual measure. The inclusion of criticism in the study was also justified in that it captures an aspect of harsh/negative parenting often researched and targeted for change by interventionists (Webster-Stratton et al., 2001; Reid et al., 2004; Scott et al., 2001a) as is the case of the present study.

Finally, the third factor "Vague commands", indicated that two conceptually different measures: Beta (vague) commands and Facilitation highly loaded (.77 - .81) on this factor. Whereas facilitation refers to child-centred verbalisations in the form of suggestions to facilitate the child's actions if stuck in play, beta commands refer to those commands that are vague in meaning, not clearly specifying to the child what actions are required of him/her. The decision of keeping this final factor as only referring to the individual measure of beta directives and therefore excluding facilitation was justified given that 1) in the context of the parenting programme provided to parents in this study, a main focus was to train parents to increase the number of clear commands to the child on the one hand and to reduce vague (beta) directives on the other, and 2) to increase child-centred behaviour that have praise and positive commenting (see above) as central features rather than parental suggestions (i.e. facilitation).

c) Establishing the factor structure of the Child Global Coding Scheme (CGCS): Theoretical/methodological considerations

In this study, main child outcomes to focus on were indices of child disruptive behaviour, and of child adaptive/pro-social behaviour. Based on previous research (Rothbaum & Weisz, 1994), global measures of observed child disruptive behaviour mainly focused on levels of non-compliance and negative affect in the child, whereas measures of child adaptive behaviour referred to the child's ability to engage in positive interactions, socially responding to his/her parents in a adequate and proactive manner, acknowledging parental input and displaying positive affect. Whereas indices of difficult behaviour in the child have consistently been used as a main outcome of child behaviour in intervention studies (Webster-Stratton & Hooven, 1998; Kazdin, 2005), the focus on the child's adequate/pro-social behaviour and in finding effective ways to promote it rather than just concentrating on decreasing child misbehaviour has increasingly grown in intervention research (Gardner, 1992; 1994). Thus, the importance of including measures of pro-social behaviour in this study lies in the fact that determining whether a parenting intervention has been effective should not only rely on the extent to which child difficult behaviour has decreased but also in terms of how much the child's pro-social behaviour has improved.

Inter-related aspects of child difficult behaviour were measured both globally (Child Negative Affect and Child Antisocial Behaviour) and by frequency counts (Non-Compliance). Both methodologies were also used to measure child adaptive/pro-social behaviour – i.e. whereas Child Attention on Task, Child Positive Affect, Child Enjoyment with Activity, Child Social Responsiveness, and Child Global Functioning were measured globally, Compliance was measured by frequency counts. It was expected that measures that referred to associated features of child disruptive behaviour and of child positive behaviour would load on distinct factors. That is, whereas non-compliance and negative affect were expected to load on the same factor, a distinct factor was expected to emerge with high loadings from measures of the child's enjoyment, positive affect, the child's ability to be socially responsive, as well as the child's level of compliance. Although these patterns of factor loadings have been found in previous research (Rothbaum & Weisz, 1994), studies focusing on child attentive behaviour have found this to represent an individual dimension, conceptually different from the other measures of child adaptive behaviour included in this study (Taylor et al., 1986). Thus, it was anticipated the potential emergence of dimensions referring to individual child outcomes such as Child Attention on Task, not incorporating any other aspect of the child's adaptive behaviour as operationalised in this study. Overall however, the pattern of factor loadings expected reflects the extent to which the child measures of the present study are associated with one another (see correlations above – Table 8).

The factor structure of the CGCS is presented in Table 11 below.

Table 11 - Factor structure of the Child Global Coding Scheme (CGCS)

CGCS Measures (N = 86)	Factor 1 - Child Positive	Factor 2 - Child Negative	Single Dimension – Child Attention	Single Dimension – Child Compliance
Child Attention on Task			.96	
Child Enjoyment with Activity	.85			
Child Social Responsiveness	.87			
Child Global Functioning	.87			
Child Positive Affect ‡	.89			
Child Negative Affect‡		.86		
Child Antisocial Behaviour		.91		
Non-Compliance±		.79		
Compliance±				.96

‡ Child Positive Affect – CARP measure; Child Negative Affect – CARP measure; ± Non-compliance – PBCS measure; Compliance – PBCS measure.

On the basis of eigenvalues above .80[14], two factors and two individual dimensions were extracted for the CGCS – "Child Positive", "Child Negative", "Child Attention", and "Child Compliance", which explain 87% of variance in scores. These factors and single dimensions are shown in Table 11 above. The factor "Child Positive" indicated that Child Enjoyment with Activity (CEA), Child Social Responsiveness (CSR), Child Positive Affect (CPA), and Child Global Functioning (CGF) highly loaded on this factor (.85 or above). As expected, these measures were combined into one single factor. This combination was conceptually meaningful as these measures describe inter-related aspects of child adaptive/pro-social behaviour, specifically positive mood and enjoyment, and the ability to establish positive social interactions. However, the high conceptual overlap between some of these measures (e.g. Child Positive Affect and Child Enjoyment with Activity) may have led to redundancy so it was required to determine which crucial features of child pro-social behaviour should be kept vs. dropped from the study. According to defining criteria (see CGCS in Appendix I1), two constructs of child adaptive behaviour were identified as somewhat independent from one another – these were levels of positive affect (CPA) and the ability to be socially

[14] In this particular case, eigenvalues above .80 were chosen as a cut-off point for the extraction of factors that were theoretically important to retain – exclusion of such factors (i.e. only keeping those with eigenvalues above 1), would have resulted in a factorial structure not theoretically relevant.

responsive (CSR). These measures also refer to main child outcomes used in intervention research, although in the particular case of Child Social Responsiveness, this is a construct more extensively studied within an attachment-based approach and mostly observed in infant populations (Shulman, Becker, & Sroufe, 1999; Sroufe, Fox, & Pancake, 1983). Thus, keeping a single measure of child positive mood and a measure of the child's capacity to socially respond in a positive way was thought of as conceptually more valuable to the study. In addition, targeting only these two child positive outcomes was helpful in terms of a reduction in the amount of measures used. In summary, the two individual measures of child positive behaviour to remain were: Child Positive Affect (CPA) and Child Social Responsiveness (CSR) whereas Child Enjoyment with Activity (CEA) and Child Global Functioning (CGF) were dropped from further analyses as they were regarded as redundant, not significantly adding to the findings of the study.

In this study, another measure of positive child behaviour was Child Attention on Task (CAT). This measure however, was identified by PCA as constituting a single dimension. Thus, CAT was identified as referring to a different dimension of child adaptive behaviour not incorporating aspects of positive affect or social responsiveness. As explained above, it was anticipated that Child Attention on Task would not necessarily integrate these other aspects of child adaptive behaviour. The inclusion of this measure in the study however, was of crucial importance as it allows gathering observational data on the child's ability to focus and concentrate. If low scores are obtained, there may be an indication that the child suffers from poor concentration, inattention, and distractibility, all potential indices of child hyperactivity, an outcome often associated with the early development of conduct problems in children (Taylor et al., 1986). An individual measure of Child Attention on Task was therefore kept as a crucial child outcome in this study.

Child Negative Affect (CNA), Child Antisocial Behaviour (CAB) and Non-compliance highly loaded (.79 or above) on the second factor "Child Negative". This finding was conceptually meaningful as these codes refer to specific aspects of negative child behaviour, namely negative mood, and non-compliance. Although somewhat independent from one another, negative mood and non-compliance often coexist as an indicator of the child's difficult/disruptive behaviour. It was therefore decided that by creating a composite score combining Child Negative Affect (CNA), Child Antisocial

Behaviour (CAB), and Non-compliance, a more comprehensive measure of child difficult behaviour would be obtained. The inclusion of Child Antisocial Behaviour (CAB) as part of this combined score allows capturing aspects of misbehaviour other than negative mood and non-compliance (e.g. using smart talk, name-calling/rudeness, etc.), thus adding extra information of the overall level of child difficult behaviour. Child Negative Behaviour was therefore created as a composite measure of child difficult/oppositional behaviour, including Child Antisocial Behaviour (CAB), Child Negative Affect (CNA), and Non-compliance.

"Child Compliance" was another individual dimension identified by PCA. This measure was therefore found to capture an aspect of the child's adequate/pro-social behaviour different from the other measures of child positive behaviour used in this study. Also, it was found not to correspond to the inverse measure of child non-compliance. Potential reasons for these distinctions refer to 1) the fact that this is the only Social Learning Theory frequency based measure of child positive behaviour, whereas the remaining measures of child pro-social behaviour are more dyadic in nature and are globally measured (e.g. Child Positive Affect, Child Social Responsiveness), and 2) whereas the context in which compliance was coded in this study was mostly following alpha (i.e. clear) commands, non-compliance was mostly coded following beta (vague) commands issued to the child. Therefore, the difference between compliance and non-compliance in this particular study can be potentially attributable to their coding being context-specific. In terms of its operationalisation however, compliance is in fact the inverse of non-compliance, and having already included this last code as integrating the combined score of child negative behaviour (see above), keeping a separate measure of compliance was considered to lead to redundancy. Compliance was therefore dropped from further analyses as it would not add significantly to the findings of the study.

Following the reliability exercise, and taking into account the results of correlations and of PCA, the set of final measures (i.e. individual codes and composites) to use in further analyses is presented in Table 12 below.

TABLE 12 – Description of direct observation assessments of parent and child behaviour after data reduction and principal component analysis (PCA)

Direct Observation Parent & Child Measures	**Constructs**	*Single* Global Measure	*Single* Frequency Measure	Composite Global Measure (Compositing items)	Stability	Mean (sd)	Composite Frequency Measure (Compositing items)	Stability‡	Mean (sd)
Coding of Attachment Related Parenting (**CARP**)	Sensitive Responding	√							
	Parent Positive Affect	√							
	Parent-Child Mutuality	√							
Parent & Child Global Coding Scheme	Parent Negative Behaviour			√ (Parent Negative Affect + Parent Intrusiveness)	(.63)	9.9 (3.9)			
	Child Attention on Task	√							
	Child Positive Affect	√							
	Child Social Responsiveness	√							
	Child Negative Behaviour			√ (Child Negative Affect + Child Antisocial Behaviour + Non-Comply)	(.64)	21.7 (13.9)			
Parent Behaviour Coding Scheme (**PBCS**)	Clear Commands						√ (Alpha Commands + Prohibition)	(.57)	91.8 (53.0)
	Chain Commands						√ (Chain Alphas + Chain Betas)	(.56)	44.6 (31.2)
	Beta Command		√						
	Parental Attending†						√ (Neutral Attends + Positive Attends + Praise)	(.47)	5.1 (2.2)
	Criticism†		√						

‡Stability coefficients as calculated by Regression (see Table 5); †Logged variables

In summary, and as shown in Table 12 above, parent and child observational codes to use in further analyses are:

1. Attachment-related parenting: Sensitive Responding (SR), Parent Positive Affect, (PPA), and Parent-Child Mutuality (M);
2. Social learning based parenting: Parental Attending, Clear Commands, Chain Commands, Beta Commands, and Criticism;
3. Parent and Child Global Codes: Parent Negative Behaviour (PNB), Child Attention on Task (CAT), Child Positive Affect (CPA), Child Social Responsiveness (CSR), and Child Negative Behaviour (CNB).

Examination of skew and kurtosis of all individual codes and composites in Table 12 above indicated that these measures were normally distributed. Two exceptions were Criticism and Parental Attending, which were logged (see Appendix P1).

6.1.5. Validity

Validity is the degree to which a set of data represents what it purports to represent. Three main types of validity evidence can be obtained: content, construct and criterion. Whereas content validity of the measures developed in this study has been discussed earlier (cf. chapter 4), convergent and divergent validity will be examined in this section. In observational studies, evidence of construct validity is commonly obtained by either correlating observational codes with other measures of the same construct (i.e. convergent validity) or by verifying that observational codes are unrelated to dissimilar constructs (i.e. divergent validity) (Lindhal, 2001).

A between method approach (observation vs. report) was adopted in the examination of convergent and divergent validity of the parent/child observation measures developed in this study.

6.1.5.1. Validity of observation parenting measures

For the parenting measures used in this study, evidence for construct validity refers to the extent to which there is cross-method agreement between report and observation measures of parenting. The report measures of parenting that were chosen to test the convergent and divergent validity of the observational parenting measures referred to indices of positive/warm and disciplinary/harsh parenting as operationalised by Quinton et al (1976) interview methods. Specifically, report measures of positive/warm parenting referred to the following outcomes: "Communication with child", "Number of Times Praises Child", "Sensitivity", and "Likes Child", whereas report measures of disciplinary/harsh parenting referred to "Overall Criticism", "Number of Times Smacks Child", and "Disciplinary Aggression". Ideally, the validation of a measure requires its comparison with a gold standard of the construct(s) that it purports to measure. In the case of parenting however, there are no established gold standard measures as such (Arney, 2004). Thus, although the development of valid instruments to assess parenting has been a priority in research, the current state of the literature does not present us with the best measure of this complex construct (McMahon & Metzler, 1996). In the case of the parenting interview by Quinton et al (1976), although this is not a widely used measure of parenting its development was nevertheless based on sound theoretical grounds and the parenting behaviours it measures have been systematically studied in

relation to main child outcomes (Rothbaum & Weisz, 1994; Dowdney et al., 1984). Thus, the report measures covered by this interview are examples of reliable and valid measures of parenting, and their use in this particular study was invaluable in examining the extent to which the newly developed observation parent codes are valid.

a) Convergent validity of observation parenting measures

To assess the convergent validity of the observation parenting measures developed in this study, both the attachment-related and the social learning based coding schemes (i.e. the CARP and the PBCS) and their association with other concurrent measures of positive/warm and disciplinary/harsh parenting as operationalised by Quinton et al (1976) interview methods, were investigated. The first set of correlations examined the association between both observed attachment-related parenting (i.e. Sensitive Responding, Parent Positive Affect, and Mutuality) and positive social learning based parenting (i.e. Parental Attending), and positive/warm parenting report measures of praise, sensitivity, communication with child, and feelings of love (liking/caring) for the child. In the second set, both observed parenting negative behaviour and disciplinary/harsh social learning based parenting (i.e. Clear Commands, Chain Commands, Beta Commands, and Criticism) were correlated with disciplinary/harsh parenting report measures of smacking, disciplinary aggression, and overall criticisms.

The assessment of convergent validity of parenting measures was conducted through cross-method agreement (report vs. observation). In this context, several sources of method variance were expected to influence findings, including type of instrument used and type of informants from which information was obtained (Eddy, Dishion, & Stoolmiller, 1998). Therefore, high correlations between the constructs were not expected.

b) Divergent validity of observation parenting measures

To assess the divergent validity of the observation parenting measures developed in this study, both the attachment-related and the social learning based coding schemes (i.e. the CARP and the PBCS) and their association with divergent measures of positive/warm and disciplinary/harsh parenting as operationalised by Quinton et al (1976) interview methods, were investigated. A first set of correlations examined the association between both observed attachment-related parenting (i.e. Sensitive Responding, Parent Positive

Affect, and Mutuality) and positive social learning based parenting (i.e. Parental Attending), and disciplinary/harsh parenting report measures of smacking, disciplinary aggression, and overall criticism. In a second set, both observed negative parenting behaviour and disciplinary/harsh social learning based parenting (i.e. Clear Commands, Chain Commands, Beta Commands, and Criticism) were correlated with positive/warm parenting report measures of praise, sensitivity, communication with child, and feelings of love (liking/caring) for the child.

Results of convergent and divergent validity of parenting measures are provided in Table 13 below.

Table 13 - Convergent and divergent validity: Correlations between observed and reported parenting

Interview Parenting Measures	**Direct Observation Parenting Measures**								
	Observed Attachment-related/ Positive Parenting				**Observed Negative & Social-Learning based Disciplinary/Harsh Parenting**				
Reported Positive Parenting	Sensi-tive Respon-ding	Parent Posi-tive Affect	Mutu-ality	Paren-tal Atten-ding	Parent Negative Beha-viour	Clear Com-mands	Beta Com-mands	Chain Com-mands	Criti-cism
No Times Praises Child	0.24*	0.19	0.20	0.07	0.09	0.02	0.05	0.10	0.02
Sensitivity	**0.39****	**0.38****	0.25*	0.27*	-0.20	-0.05	0.09	-0.04	-0.15
Communica-tion with Child	**0.44****	**0.37****	**0.30****	**0.32****	-0.16	-0.04	0.15	-0.01	-0.22*
Likes child	**0.29****	0.17	0.20	0.21	0.01	0.03	0.02	-0.03	-0.01
Reported Negative Parenting									
No Times Smacks child	-0.17	-0.19	-0.16	0.00	0.10	0.13	0.21*	0.12	0.15
Disciplinary Aggression	-0.26*	-0.17	-0.21	-0.09	0.20	0.10	0.16	0.08	0.24*
Overall Criticism	-0.19	-0.10	-0.13	-0.07	0.10	0.06	0.07	0.06	0.24*

(N = 86) *p<.05, **p<.01

In terms of convergent validity, results in Table 13 indicate that whereas observed Sensitive Responding (SR) positively correlated with all report measures of positive parenting with low to moderate correlations ranging from .24 (p<.05) to .44 (p<.01). Parent Positive Affect (PPA), Mutuality (M) and Parental Attending only correlated

with report measures of "Sensitivity" and "Communication with Child", with low to moderate correlations ranging from .25 ($p<.05$) to .38 ($p<.01$).

In addition, whereas a positive and significant correlation of .24 ($p<.05$) was obtained between observed social learning based negative parenting (i.e. Criticism) and report measures of "Disciplinary Aggression" and "Overall Criticism", no associations were found between both the observed global measure of Parent Negative Behaviour and social learning based directives, and any of the report measures of disciplinary/harsh parenting.

Regarding divergent validity, results in Table 13 indicate that there was no association between any of the observed attachment-related and social learning based positive parenting measures and report measures of disciplinary/harsh parenting. A significant negative association was however obtained between observed Sensitive Responding (SR) and reported "Disciplinary Aggression" ($r = -.26$, $p<.05$).

Results also indicate that both the observed social learning based disciplinary/harsh parenting measures and the global measure of parent negative behaviour did not associate with any of the reported measures of positive parenting. Observed Criticism however, negatively associated with reported "Communication with Child" ($r = -.22$, $p<.05$).

6.1.5.2. Validity of observation child measures

For the child measures used in this study, evidence for construct validity refers to the extent to which there is cross-method agreement between report and observation measures of child behaviour. The report measures of child behaviour that were chosen to test the convergent and divergent validity of the observational child measures referred to indices of adaptive/pro-social and disruptive/negative child behaviour as operationalised by the PACS interview (Taylor et al., 1986) and the SDQ questionnaire (Goodman, 1997) methods. Specifically, report measures of disruptive/negative child behaviour referred to parent and teacher reported Child Conduct Problems, Child Hyperactivity, and Child Deviance, whereas the report measure of adaptive/pro-social child behaviour referred to parent and teacher reported Child Pro-social Behaviour. Overall, the report child outcomes from both the PACS interview (Taylor et al., 1986) and the SDQ questionnaire (Goodman, 1997) used in this study present acceptable to

good reliability (see Table 4 above). Additionally, both these instruments have been validated in large UK samples of children (see Taylor, Sandberg, Thorley, & Giles, 1991; Goodman, 1997). Thus, these report child outcomes were used in this study for the construct validation of the observational child codes.

a) Convergent validity of observation child measures

To assess the convergent validity of the observation child measures developed in this study, the Child Global Coding Scheme (i.e. the CGCS) and its association with concurrent measures of reported child behaviour as operationalised by questionnaire (i.e. the SDQ – Goodman, 1997) and interview (i.e. the PACS - Taylor et al., 1986), methods were investigated. A first set of correlations examined the association between observed child positive behaviour (i.e. Child Attention on Task, Child Positive Affect, and Child Social Responsiveness) and reported child pro-social behaviour. In a second set, the observed measure of child negative behaviour was correlated with reported measures of child hyperactivity, conduct problems, and total deviance.

Because the assessment of convergent validity of child measures was conducted through cross-method agreement (report vs. observation), high correlations between the constructs were not expected. Method variance was therefore expected to influence correlation outcomes.

b) Divergent validity of observation child measures

To assess the divergent validity of the observation child measures developed in this study, the Child Global Coding Scheme (i.e. the CGCS) and its association with divergent measures of reported child behaviour as operationalised by questionnaire (i.e. the SDQ – Goodman, 1997) and interview (i.e. the PACS - Taylor et al., 1986), methods were investigated. A first set of correlations examined the association between observed child positive behaviour (i.e. Child Attention on Task, Child Positive Affect, and Child Social Responsiveness) and reported child hyperactivity, conduct problems, and total deviance. In a second set, the observed measure of child negative behaviour was correlated with the report measure of child pro-social behaviour.

Results are provided in Table 14 below.

Table 14 - Convergent and divergent validity: Correlations between observed and reported child behaviour

	Direct Observation Child Measures			
	Observed Child Positive Behaviour			Observed Child Negative Behaviour
Parent Questionnaire measures of Child Disruptive Behaviour	Child Attention on Task	Child Positive Affect	Child Social Responsiveness	Child Negative Behaviour
Child Conduct Problems	**-0.29****	0.19	0.04	0.26*
Child Hyperactivity Problems	-0.20	0.13	0.24*	**0.31****
Child Deviance Score	-0.22*	0.21	0.23*	0.16
Parent Questionnaire measure of Child Adaptive Behaviour				
Child Pro-social Behaviour	0.17	0.02	-0.02	-0.21
Teacher Questionnaire measures of Child Disruptive Behaviour				
Child Conduct Problems	0.06	0.04	-0.14	0.00
Child Hyperactivity Problems	-0.03	0.08	0.18	0.06
Child Deviance Score	0.09	0.16	0.11	-0.07
Teacher Questionnaire measure of child adaptive behaviour				
Child Pro-social behaviour	0.04	0.04	0.10	-0.07
Parent Report Measures of Child Disruptive Behaviour				
Conduct Problems	-0.20	0.09	0.13	**0.40****
Hyperactivity Problems	-0.05	0.13	0.15	0.21

(N = 86) *p<.05; **p<.01

In terms of convergent validity, results in Table 14 indicate that observed child negative behaviour positively correlated with parent questionnaire reported child Conduct and Hyperactivity problems (r = .26, p<.05, and r = .31, p<.01, respectively), as well as with parent interview reported Child Conduct Problems (r = 40, p<.01). However, no associations were found between observed positive child behaviour and reported child pro-social behaviour.

Regarding divergent validity, observed Child Attention on Task negatively correlated with parent questionnaire reported child Conduct and Deviance problems ($r = -.29$, $p<.01$, and $r = -.22$, $p<.05$, respectively). These are associations in the expected direction. An exception to this was the positive association between observed Child Social Responsiveness and parent questionnaire reported Child Hyperactivity and Deviance ($r = .24$, $p<.05$, and $r = .23$, $p<.05$, respectively). No associations were found between observed Child Positive Affect and reported measures of child disruptive behaviour and between observed Child Negative Behaviour and reported child pro-social behaviour.

6.1.6. Examination of main hypotheses

6.1.6.1. Association between attachment-related and social learning based parenting

The first question (H1) is to what extent attachment-related parenting and social learning based parenting observation measures would associate with one another. Positive associations were expected between attachment-related parenting and the child-centred social learning based measure of Parental Attending, with attachment-related parenting negatively associating with social learning based disciplinary/harsh parenting (i.e. directives and criticism). Additionally, Parent Negative Behaviour was expected to negatively correlate with attachment-related parenting and with child-centred Parental Attending, and to positively correlate with social learning based disciplinary/harsh parenting.

Pearson correlations between both observation parenting measures (i.e. CARP and PBCS) were used to test H1. Results are provided in Table 15 below.

Table 15 - Zero-order correlations between observed attachment-related parenting and observed social learning based parenting

	Direct Observation Parenting Measures							
	Attachment-related global parenting measures			**Global Negative Parenting Measure**	**Social-Learning based Frequency Disciplinary/Harsh parenting measures**			
Frequency Positive Parenting Measure	Sensitive Responding	Parent Positive Affect	Mutuality	Parent Negative Behaviour	Clear Commands	Beta Commands	Chain Commands	Criticism
Parental Attending	**0.66****	**0.43****	**0.39****	-0.14	**0.31****	0.10	0.24*	-0.15
Global Negative & Frequency Disciplinary /Harsh Parenting Measures								
Parent Negative Behaviour	**-0.45****	**-0.34****	**-0.34****					
Clear Commands	0.06	-0.10	0.10	0.19				
Beta Commands	0.11	0.01	-0.03	-0.05	**0.32****			
Chain Commands	0.03	-0.02	0.07	**0.33****	**0.82****	0.25*		
Criticism	**-0.41****	**-0.34****	**-0.31****	**0.44****	**0.42****	0.22*	**0.43****	

(N = 86) *p<.05, **p<.01

Results in Table 15 indicate that all attachment-related parenting measures positively correlated with social learning based Parental Attending with correlations ranging from .39 to .66 (all p's <.01). The highest correlation obtained was between Sensitive Responding and Parental Attending (r = .66, p<.01).

Results also indicate that Parent Negative Behaviour positively correlated with Chain Commands (r=.33, p<.01) and Criticism (r = .42, p<.01). No association was found between Beta Commands and Parent Negative Behaviour.

Finally, there was an overall lack of association between social learning based directives and attachment-related parenting. In addition, negative associations were also obtained between social learning based Criticism and all attachment-related parenting measures, with correlations ranging from -.31 to -.41 (all p's < .01).

In summary, and as expected, findings suggest that there is conceptual convergence between attachment-related models of parenting emphasising sensitivity, positive affect and reciprocity, and social learning parenting perspectives focusing on provision of positive reinforcement through praising, and positively attending to the child. In contrast, findings suggest the independence of attachment-related qualities of the parent-child relationship and social learning based disciplinary/management aspects of parental behaviour. Particularly marked was the divergence between attachment-based parenting and social learning based harsh/critical parenting.

Overall, results provide strong support to H1.

6.1.6.2. Association between observed parenting and observed child behaviour

The second question (H2) is to what extent both attachment-related and social learning based observed parenting would associate with observed child behaviour. It was expected that both observed attachment-related and social learning based parenting would be associated with observed child behaviour. Both attachment-related parenting and Parental Attending were expected to strongly associate with observed child positive behaviour (i.e. Child Attention on Task, Child Positive Affect, and Child Social Responsiveness), whereas directives, criticism and Parent Negative Behaviour were expected to strongly associate with observed child negative behaviour. Pearson

correlations between both observation parenting measures (CARP and PBCS) and observed child behaviour as measured by the CGCS, were used to test H2.

Results are provided in Table 16 below.

Table 16 - Zero-order correlations between observed parenting and observed child behaviour

Direct Observation Child Measures	**Direct Observation Parenting Measures**								
	Observed Attachment-related/ Positive Parenting				**Observed Negative & Social-Learning based Disciplinary/Harsh Parenting**				
Observed Child Positive Behaviour	Sensitive Responding	Parent Positive Affect	Mutuality	Parental Attending	Parent Negative Behaviour	Clear Commands	Beta Commands	Chain Commands	Criticism
Child Attention on Task	0.19	0.08	0.18	0.13	-0.04	0.04	-0.12	-0.06	-0.26*
Child Positive Affect	**0.45****	**0.66****	**0.52****	0.20	-0.26*	-0.00	0.12	-0.02	-0.25*
Child Social Responsiveness	**0.50****	**0.54****	**0.69****	0.25*	-0.27*	0.05	0.01	-0.02	-0.21*
Observed Child Negative Behaviour									
Child Negative Behaviour	0.13	-0.11	-0.09	0.20	-0.05	**0.29****	**0.45****	0.22*	0.23*

(N = 86) *p<.05, **p<.01

Results in Table 16 indicate that with the exception of Child Attention on Task, all attachment-related parenting behaviours positively correlated with Child Positive Affect and Child Social Responsiveness. Specifically, both Child Positive Affect and Child Social Responsiveness positively correlated with Sensitive Responding ($r = .45$, $p<.01$, and $r = .50$, $p<.01$, respectively), Parent Positive Affect ($r = .66$, $p<.01$, and $r = .54$, $p<.01$, respectively), and Mutuality ($r = .52$, $p<.01$, and $r = .69$, $p<.01$, respectively). There was no association however between any of the attachment-related parenting behaviours and Child Negative Behaviour. Also, there was no association between Parent Negative Behaviour (PNB) and Child Negative Behaviour (CNB).

Results also indicate that whereas social learning based Parental Attending positively correlated with Child Social Responsiveness ($r = .25$, $p<.05$), social learning based directives and criticism positively correlated with Child Negative Behaviour. Specifically, Child Negative Behaviour positively correlated with Clear Commands ($r = .29$, $p<.01$), Beta Commands ($r = .45$, $p<.01$), Chain Commands ($r=.22$, $p<.05$), and Criticism ($r = .23$, $p<.05$). Negative correlations also took place between social learning based Criticism and all observed positive child outcomes, i.e. Child Attention on Task ($r = -.26$, $p<.05$), Child Positive Affect ($r = -.25$, $p<.05$), and Child Social Responsiveness ($r = -.21$, $p<.05$).

In summary, and as expected, results suggest that whereas attachment-related qualities of the parent child relationship may contribute in promoting adaptive behaviour in children, social learning based disciplinary and harsh parenting (i.e. directives and criticism) may lead to increased child disruptive behaviour. This pattern of results is congruent with other research on parenting and child outcomes (e.g. Maccoby & Martin, 1983; Rothbaum & Weisz, 1994; Kochanska, 1997). Inconsistent with H2 was the lack of association between attachment-related parenting and child problem behaviour. Although this finding replicates other results, it is incongruent with research establishing a link between sensitive parenting and conduct problems in at risk populations (e.g. Loeber & Farrington, 2001; DeKlyen & Speltz, 2001).

Overall, results provide partial support to H2.

6.1.6.3. Association between observed parenting and parent interview measures of child behaviour

The third question (H3) is to what extent both observed attachment-related and social learning based parenting would associate with parent interview measures of child disruptive behaviour. It was expected that both attachment-related parenting and the social learning based measure of Parental attending would be negatively associated with reported child disruptive behaviour. Conversely, social learning based directives and criticism as well as parent negative behaviour were expected to be positively associated with reported child disruptive behaviour. Due to method variance however (i.e. comparing observation with interview methods), it was expected that the magnitude of these associations would be small.

Pearson correlations between both observation parenting measures and two reported child disruptive behaviours as measured by the PACS interview (Taylor et al., 1986): Child Conduct Problems, and Hyperactivity, were used to test H3.

Results are provided in Table 17 below.

Table 17 - Zero-order correlations between observed parenting and parent interview measures of child behaviour

Parent Interview Measures	**Observed Attachment-related/ Positive Parenting**				**Observed Negative & Social-Learning based Disciplinary/Harsh Parenting**				
Reported Child Disruptive Behaviour	Sensi-tive Respon-ding	Parent Posi-tive Affect	Mutu -ality	Paren-tal Atten-ding	Parent Negative Beha-viour	Clear Com-mands	Beta Com-mands	Chain Com-mands	Criti-cism
PACS conduct Problems	0.20	0.05	0.09	0.25*	-0.20	0.11	0.25*	0.04	0.09
PACS hyperactivity	0.10	-0.05	0.19	0.07	-0.15	0.10	0.12	-0.02	0.08

(N = 86) *p<.05

Results in Table 17 indicate that, observed attachment-related parenting did not correlate significantly with reported child disruptive behaviour. Also, no association was obtained between Parent Negative Behaviour and reported child disruptive behaviour. Finally, only observed Parental Attending and Beta Commands were weakly correlated with reported child conduct problems ($r = .25$, $p<.05$, and $r = .25$, $p<.05$, respectively). However, given the number of tests conducted (i.e. total of 18 correlations) the significance of these findings is questionable given the increased likelihood of committing a type I error (i.e. findings of false significance). When correcting for multi-testing using the Bonferroni method (i.e. dividing the conventional p value by the total number of tests), none of the above findings are significant. In other words, Table 17 shows the number of 'significant' correlations one would expect by chance. In addition, method variance (i.e. comparing observation with interview methods), may have also accounted for the small correlations obtained.

Overall, results do not support H3.

6.1.6.4. Association between observed parenting and parent/teacher questionnaire ratings of child behaviour

A fourth question (H4) is to what extent observed attachment-related and social learning based parenting would associate with parent and teacher questionnaire measures of child disruptive and adaptive behaviour. It was hypothesised that both attachment-related parenting and the social learning based measure of Parental Attending would negatively correlate with questionnaire measures of child disruptive behaviour. Conversely, positive associations were expected between questionnaire measures of child disruptive behaviour and parent negative behaviour, social learning based directives, and criticism. Whereas positive associations were expected between reported child pro-social behaviour and attachment-related parenting and social learning based Parental Attending, negative associations were expected between parent negative behaviour, social learning based directives, and criticism and reported child adaptive/pro-social behaviour. Due to method variance however (i.e. comparing observation with questionnaire methods), it was expected that the magnitude of these associations would be small. Another source of method variance refers to the type of informants (i.e. observer, parent, and teacher) from which data on these measures were obtained (Scott, 2001). Thus, expected discrepancy between different informants may also influence the magnitude of associations obtained.

To test H4, a set of Pearson correlations was conducted between both observation parenting measures and both parent and teacher SDQ questionnaire measures (Goodman, 1997) of child disruptive behaviour, i.e. conduct problems, hyperactivity, and total deviance, and of child adaptive behaviour, i.e. pro-social behaviour.

Results are shown in Table 18 below.

Table 18 - Zero-order correlations between observed parenting and parent/ teacher questionnaire measures of child behaviour

	Direct Observation Parenting Measures								
	Observed Attachment-related/ Positive Parenting				**Observed Negative & Social-Learning based Disciplinary/Harsh Parenting**				
Child Disruptive Behaviour (parent report)	Sensitive Responding	Parent Positive Affect	Mutuality	Parental Attending	Parent Negative Behaviour	Clear Commands	Beta Commands	Chain Commands	Criticism
Child Conduct Problems	0.07	0.08	-0.04	0.05	-0.17	0.01	0.20	0.05	0.05
Child Hyperactivity	0.18	0.06	0.19	0.12	-0.17	0.17	0.19	0.14	0.15
Child Deviance Score	0.15	0.11	0.16	0.10	-0.21	0.02	0.11	0.06	0.03
Child Adaptive Behaviour (parent report)									
Child Prosocial Behaviour	-0.19	-0.06	-0.12	-0.13	0.11	-0.05	-0.08	-0.02	0.00
Child Disruptive Behaviour (teacher report)									
Child Conduct Problems	-0.16	-0.15	-0.09	-0.11	0.25*	0.14	0.01	0.07	0.16
Child Hyperactivity	0.10	0.08	0.15	-0.01	0.18	0.18	-0.02	0.25*	0.15
Child Deviance Score	-0.00	0.03	0.12	-0.06	0.24*	0.09	-0.08	0.16	0.09
Child Adaptive behaviour (teacher report)									
Child Prosocial Behaviour	0.07	0.02	0.11	0.04	-0.21	-0.12	0.06	-0.17	-0.20

(N = 86) *p<.05

Results in Table 18 indicate that observed attachment-related parenting did not correlate with parent or teacher reported child disruptive behaviour. Using conventional significance levels (i.e. p = .05) few significant (although weak/modest) correlations were obtained. These referred to the positive correlation between Chain Commands and teacher reported child hyperactivity (r=.25, p<.05), and between observed Parent Negative behaviour and both teacher reported child conduct problems (r = .25, p<.05) and total deviance score (r = .24, p<.05). However, and as before, given the high

number of tests conducted (i.e. a total of 72 correlations), reliance on conventional p values is misleading as the chances of committing a type I error are greatly increased. When correcting for multi-testing using the Bonferroni method (see above) none of the correlations in Table 18 are significant. Another consideration refers to the impact that method variance (i.e. comparing observation with questionnaire methods), may have had on the correlations obtained.

In summary, no associations were obtained between any of the observed parenting measures and parent or teacher reported child behaviour.

Overall, results do not support H4.

6.1.6.5. Association between observed parenting and doll-play measure of child attachment representation

A fifth question (H5) is to what extent observed attachment-related and social learning based parenting would associate with doll-play measures of child attachment representation. It was hypothesised that both attachment-related and the social learning based parenting measures would associate with child attachment representation with stronger associations obtained between attachment-related parenting and child attachment representation than between social learning based parenting and child attachment representation. Overall, it was expected that the strength of the associations found would be modest due to method variance. To test H5, Pearson correlations were conducted between both observation parenting measures and MCAST doll-play child attachment representation measures (Green et al., 2000) of coherence, insecurity and disorganisation of attachment.

Results are shown in Table 19 below.

Table 19 - Zero-order correlations between observed parenting and doll-play child attachment representation

Doll-Play Child Attachment Representation Measures	Direct Observation Parenting Measures								
	Observed Attachment-related/ Positive Parenting				Observed Negative & Social-Learning based Disciplinary/Harsh Parenting				
	Sensitive Responding	Parent Positive Affect	Mutuality	Parental Attending	Parent Negative Behaviour	Clear Commands	Beta Commands	Chain Commands	Criticism
Coherence	0.20	0.26*	0.15	0.28*	0.07	-0.01	0.15	-0.01	-0.19
Disorganisation	-0.21	-0.22*	-0.24*	-0.21	-0.06	0.06	0.23*	-0.02	-0.05
Insecurity	-0.16	-0.20	-0.20	-0.14	-0.14	0.12	0.23*	0.07	0.17

(N = 86) ***p<.05**

Results in Table 19 indicate that only observed attachment-related Parent Positive Affect and Mutuality negatively correlated with child representation of attachment disorganisation ($r = -.22$, $p<.05$, and $r = -.24$, $p<.05$, respectively). In addition, only observed attachment-related Parent Positive Affect positively correlated with child coherent representation of attachment ($r = .26$, $p<.05$).

Results also indicate that whereas observed social learning based Parental Attending positively correlated with child coherent representation of attachment ($r = .28$, $p<.05$), only observed social learning based Beta (vague) commands positively correlated with child representation of attachment disorganisation ($r = .23$, $p<.05$) and attachment insecurity ($r = .23$, $p<.05$).

A note of caution regarding the above findings refers once again to the number of tests conducted (i.e. total of 27 correlations) and how this may impact on significance levels (i.e. increased likelihood of committing a type I error). However, if focusing on the correlations obtained between attachment-related parenting and child MCAST data (i.e. total of 9 correlations), and taking into consideration the large method variance (i.e. comparing direct observation of parent-child dyads with doll-play child narrative techniques), both the size of the correlations obtained (i.e. most r's = .20 or above) and their significance (i.e. conventional p value $\leq .05$) suggest a stronger association between these variables comparative with correlations obtained between other dimensions of parenting (i.e. social-learning variables) and child attachment representation. This pattern of results is in accordance with our predictions.

In summary, and as expected, in comparison with social learning based variables, there was an overall pattern of stronger associations (although not always significant) between attachment-related parenting and child attachment representation. Furthermore, all correlations (which were modest in size) were in the expected direction with increased sensitivity, positive affect and mutuality associating with increased coherence and decreased disorganised and insecure attachment representations. Although results for social learning variables were less consistent, increased parental attending in the form of praises and positive commenting also associated with increased coherence and decreased disorganisation and insecurity.

Overall, results provide partial support to H5.

6.1.6.6. Association between observed child behaviour and doll-play measure of child attachment representation

A sixth question (H6) is to what extent there is an association between observed child behaviour and child attachment representation. It was hypothesised that observed Child Negative Behaviour would positively associate with doll-play representational measures of attachment disorganisation and insecurity in children. For observed child positive behaviours as measured by the CGCS (i.e. Child Attention on Task, Child Positive Affect, and Child Social Responsiveness), these were expected to negatively correlate with representation of attachment insecurity and disorganisation, and to positively correlate with coherent representation of attachment, as measured by the MCAST. Overall, it was expected that the associations found would be modest due to method variance. Pearson correlations were used to investigate these associations. Results are provided in Table 20 below.

Table 20 - Zero-order correlations between observed child behaviour and doll-play child attachment representation

	Direct Observation Child Measures			
	Observed Child Positive Behaviour			**Observed Child Negative Behaviour**
Doll-Play Child Attachment Representation Measures	Child Attention on Task	Child Positive Affect	Child Social Responsiveness	Child Negative Behaviour
Coherence	0.17	0.14	**0.36****	-0.10
Disorganisation	-0.16	-0.02	**-0.30****	0.24*
Insecurity	-0.17	-0.05	-0.26*	0.27*

(N = 86) *p<.05, **p<.01

Results in Table 20 indicate that observed Child Negative Behaviour positively correlated with child representation of attachment disorganisation ($r = .24$, $p<.05$) and attachment insecurity ($r = .27$, $p<.05$).

Results also indicate that only observed Child Social Responsiveness was consistently associated with child attachment representation measures. In particular, observed Child Social Responsiveness positively correlated with child coherent representation of attachment ($r = .36$, $p<.01$), and negatively correlated with child representation of attachment disorganisation ($r = -.30$, $p<.01$) and attachment insecurity ($r = -.26$, $p<.05$).

In summary, and as expected, findings suggest that whereas problem conduct children are more likely to have a representation of attachment relationships that is more disorganised or insecure, more socially responsive children are more likely to have attachment representations that are more coherent and less disorganised or insecure.

These results provide strong support to H6.

6.1.6.7. Analysis of treatment change – Part I: Mean differences in parent and child outcomes per condition at baseline

Hypotheses 7 and 8 refer to the assessment of change in observed parent and child behaviour following the intervention. However, prior to the assessment of change from pre to follow-up stages, it was important to establish whether at pre-treatment there were significant differences between the intervention and the control groups on any of the measures of parent and child behaviour (i.e. direct observation, interview, questionnaire, and doll-play measures). As subjects were randomised to either condition however, significant differences between the groups were not expected, thus making them suitable for comparison.

Mean differences in scores of each parent and child measure were calculated using independent T-Tests contrasting both groups. Results are presented in Table 21 below.

Table 21 - Mean differences in parent-child outcomes per condition at pre-treatment

	Intervention Group (n = 43)		**Control Group (n = 43)**	
Parent & Child Measures (Total n)	**Mean (n)**	**SD**	**Mean (n)**	**SD**
Sensitive Responding (n=86)	10.77 (n=43)	3.48	11.00 (n=43)	3.93
	T-Test (t=0.29; df = 84; p = 0.77)			
Parent Positive Affect (n=86)	7.42 (n=43)	2.85	8.53 (n=43)	3.93
	T-Test (t=1.51.; df = 84; p = 0.12)			
Parent-Child Mutuality (n=86)	8.37 (n=43)	2.97	9.12 (n=43)	3.71
	T-Test t=1.03; df = 84; p = 0.31)			
Parent Negative Behaviour (n=86)	10.33 (n=43)	4.10	9.55 (n=43)	3.59
	T-Test t = 0.95; df = 84; p = 0.35;			
Clear Commands (n=86)	97.47 (n=43)	53.49	86.09 (n=43)	52.58
	T-Test t = 0.99; df = 84; p = 0.32;			
Beta/Vague Commands (n=86)	10.60 (n=43)	8.15	8.16 (n=43)	5.53
	T-Test t = 1.63; df = 84; p = 0.11;			
Chain Commands (n=86)	46.91 (n=43)	33.97	42.21 (n=43)	28.34
	T-Test t = 0.70; df = 84; p = 0.49			
Criticism (n=86)	1.07 (n=43)	1.22	0.85 (n=43)	0.96
	T-Test t = 0.91; df = 84; p = 0.36;			
Parental Attending (n=86)	4.84 (n=43)	2.41	5.39 (n=43)	1.87
	T-Test t = 1.20; df = 84; p = 0.24;			
Child Attention on Task (n=86)	17.47 (n=43)	2.57	17.77 (n=43)	2.45
	T-test t = 0.56; df = 84; p = 0.58;			
GHQ Total Score (n=69)	10.22 (n=34)	5.91	8.90 (n=35)	4.96
	T-Test t = 1.01; df = 67; p = 0.32;			
PSOC Total Score (n=82)	56.14 (n=42)	10.23	62.68 (n=40)	8.15
	T-Test t = 3.19; df = 80; **p = 0.00**;			

Child Positive Affect (n=86)	7.88 (n=43)	3.08	9.60 (n=43)	3.72
	T-Test t = 2.34; df = 84; **p = 0.02**;			
Child Social Responsiveness (n=86)	10.40 (n=43)	4.40	11.16 (n=43)	4.59
	T-Test t = 0.79; df = 84; p = 0.43;			
Child Negative Behaviour (n=86)	23.56 (n=43)	14.97	19.81 (n=43)	12.73
	T-test t = 1.25; df = 84; p = 0.22;			
PACS Conduct Problems (n=86)	0.76 (n=43)	0.51	0.72 (n=43)	0.47
	T-Test t = 0.37; df = 84; p = 0.72;			
PACS Hyperactivity (n=86)	0.50 (n=43)	0.43	0.57 (n=43)	0.41
	T-Test t = 0.77; df = 84; p = 0.45;			
No Times Praises child - *(interview)* (n=85)	2.05 (n=42)	0.91	2.12 (n=43)	1.01
	T-Test t = 0.33; df = 83; p = 0.74;			
Sensitivity - (*interview*) (n=85)	2.14 (n=43)	0.74	2.14 (n=42)	0.68
	T-Test t = 0.02; df = 83; p = 0.98;			
Communication with child (*interview*) (n=85)	2.21 (n=43)	0.97	2.29 (n=42)	0.92
	T-Test t = 0.37; df = 83; p = 0.71;			
Likes child - (*interview*) (n=85)	2.51 (n=42)	0.91	2.83 (n=43)	0.91
	T-Test t = 1.63; df = 83; p = 0.11;			
No Times Smacks child - (*interview*) (n=86)	1.07 (n=43)	1.37	0.72 (n=43)	0.98
	T-Test t = 1.36; df = 84; p = 0.18;			
Disciplinary Aggression (*interview*) (n=85)	1.72 (n=43)	0.93	1.31 (n=42)	1.00
	T-Test t = 1.96; df = 83; **p = 0.05**;			
Overall Criticism (*interview*) (n=81)	1.20 (n=41)	0.93	1.08 (n=40)	0.89
	T-Test t = 0.60; df = 79; p = 0.55;			
SDQ Parent Conduct Problems (n=84)	1.71 (n=42)	1.57	1.90 (n=42)	2.29
	T-Test t = 0.45; df = 82; p = 0.66;			
SDQ Parent Hyperactivity	3.76 (n=42)	2.74	3.69 (n=42)	2.55

(n=84)	**T-Test** t = 0.12; df = 82; p = 0.90;			
SDQ Parent Deviance (n=84)	9.00 (n=42)	5.20	10.81 (n=42)	5.54
	T-Test t = 1.54; df = 82; p = 0.13;			
SDQ Parent Pro-social Behaviour (n=83)	8.50 (n=42)	1.47	8.24 (n=41)	1.81
	T-Test t = 0.71; df = 81; p = 0.48;			
SDQ Teacher Conduct Problems (n=73)	1.55 (n=38)	1.74	1.37 (n=35)	2.26
	T-Test t = 0.39; df = 71; p = 0.70;			
SDQ Teacher Hyperactivity (n=73)	4.34 (n=38)	2.67	2.86 (n=35)	3.14
	T-Test t = 2.18; df = 71; **p = 0.03**;			
SDQ Teacher Deviance (n=73)	9.24 (n=38)	5.54	6.94 (n=35)	6.32
	T-Test t = 1.65; df = 71; p =0.10;			
SDQ Teacher Pro-social Behaviour (n=73)	6.58 (n=38)	2.82	7.40 (n=35)	3.03
	T-Test t = 1.20; df = 71; p = 0.23			
Coherence - (MCAST) (n=79)	4.20 (n=38)	1.53	3.93 (n=41)	1.40
	T-Test t = 0.82; df = 77; p = 0.41;			
Disorganisation - (MCAST) (n=79)	2.53 (n=38)	2.13	2.77 (n=41)	2.10
	T-Test t = 0.50; df = 77; p = 0.62;			
Insecurity - (MCAST) (n=77)	1.54 (n=36)	1.31	1.84 (n=41)	1.46
	T-Test t = 0.95; df = 75; p = 0.35;			

As shown in Table 21, there were no significant differences at pre-treatment between the intervention and the control groups in most of the parent and child measures. Few exceptions were: 1) Parental sense of competence (PSOC) outcomes with the intervention group scoring significantly lower than the control group in reported parental sense of competence (t ($df = 80$) $= 3.19$, $p = 0.00$); 2) child positive affect scores, with children of parents in the intervention group scoring significantly lower on observed Child Positive Affect than children of parents in the control group (t ($df = 84$) $= 2.34$, $p = 0.02$); 3) Strengths and difficulties teacher questionnaire (SDQ) scores for Hyperactivity, with children of parents in the intervention group being rated by their teachers significantly higher than children of parents in the control group on Hyperactivity (t ($df = 71$) $= 2.18$, $p = 0.03$); and 4) parent report scores of use of disciplinary aggression, with parents in the intervention group scoring significantly higher on this measure than parents in the control group (t ($df = 83$) $= 1.96$, $p = 0.05$). However, these significant differences between both groups may have been due to chance as there was no correction for multi-testing which maximises the risk of committing a type I error (i.e. findings of "false" significance) (Feise, 2002; Bland & Altman, 1995). When reanalysing these data using Bonferroni correction whereby the conventional p value of .05 is divided by the number of comparisons made (in this case, a total of 33 T-Tests for independent groups), the only significant difference in mean scores at pre-treatment referred to parental sense of competence as mentioned above. Thus, all other significant differences detected prior to correction for multi-testing may indicate findings of "false" significance. In summary, the overall lack of significant differences in parent/child outcomes at pre-treatment indicates that both the control and the intervention groups are suitable for comparison.

Assessment of change from pre to follow-up stages is presented next.

6.1.6.8. Analysis of treatment change - Part II: Establishing the discriminant validity of the direct observation parent and child measures

Discriminant validity may be considered in terms of how a particular measure is able to identify within group differences, such as treatment change (e.g. Peed, Roberts, and Forehand, 1977; Webster-Stratton, 1981) or between group differences, such as children with and without conduct problems (e.g. Bloomquist et al., 1996; Pettit & Bates, 1989). Discriminant validity of the observation measures of parent and child behaviour developed in this study was established in terms of how each one of the coding schemes

is sensitive enough to discriminate differences in parenting practices and child outcomes following treatment (i.e. the parenting programme).

Whereas the PBCS observation codes (Directives, Parental Attending, and Criticism) measure social learning based behaviours directly targeted by the programme evaluated in the trial from which this data set was taken, the CARP observation codes measure attachment-related behaviours (i.e. Sensitive Responding, Parent Positive Affect, and Mutuality) not directly targeted for change by the treatment programme.

Social learning based behaviours targeted to increase by the treatment corresponded to the PBCS composite behavioural code of Parental Attending, whereas behaviours targeted to decrease referred to the PBCS behavioural codes of Commands (whether clear[15], vague, or delivered as a chain), and Criticism.

Increase in attachment-related parenting as well as in social learning based Parental Attending following the intervention is expected as a result of training parents to be more child-centred, providing their children with positive attention, praising them, and encouraging them while both are involved in play activities. Through practicing these new skills the overall quality of the interaction is expected to improve, with an increased awareness on the part of the parent of their child's needs and wishes and thus being able to appropriately respond to these in a sensitive and warm manner.

Parent Negative Behaviour refers to specific aspects of parental behaviour that are expected to decrease following treatment. As explained earlier, Parent Negative Behaviour is a composite measure of Parent Negative Affect and Parent Intrusiveness. By training parents to use a more child-centred approach in their joint activities with their children and to be less directive and intrusive, the quality of the interaction is expected to improve and this may be reflected in a reduction of parental negative mood as well.

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[15]Although parents are specifically trained to issue clear directives to their children and to avoid issuing them with vague directives or commands in a chain, a key feature of the programme is to reduce their levels of directiveness as much as possible and to adopt instead a more child-centred approach in their interactions with their children. Thus, a reduction in all types of directives is to be achieved following the parenting programme.

With regards to change following the parenting programme, two specific hypotheses were formulated. It was hypothesised (H7) that parents in the intervention group would score higher in observed attachment-related parenting and observed social learning based child-centred parenting, and less in observed social learning based child-directive/critical parenting, as well as in parent negative behaviour than parents in the control group.

Additionally, when considering potential changes in child behaviour, it was hypothesised (H8) that children whose parents received the intervention would score higher in observed child positive behaviour and less in observed child negative behaviour, than children whose parents were part of the control group.

To analyse changes in observed social learning based and attachment-related parenting, as well as changes in observed child behaviour from pre-treatment (time 1) to follow-up (time 3) two strategies were used: 1) two-tailed independent t-tests contrasting intervention with control groups on pre to follow-up change scores, and 2) Regression analysis where time 3 scores were entered as the dependent variable (DV), and time 1 and condition were entered as the independent variables (IV). For every parent/child outcome, change at follow-up is reported in terms of effect sizes. Specifically, Cohen's *d* was used as the measure of effect size[16], which reflects the differences between the follow-up and the pre-treatment means of the intervention group and the control group divided by the pooled standard deviation at pre-treatment. A positive *d* statistic indicates a follow-up decrease in undesirable or a follow-up increase in desirable parent/child behaviour in the intervention group relative to the control group, whereas a negative *d* statistic indicates a follow-up decrease in desirable or a follow-up increase in undesirable parent/child behaviour in the intervention group relative to the control group. Conventionally, effect sizes of about 0.20 are considered to be small in magnitude, equal to about 0.50 are moderate, and equal or greater than 0.80 are large (Scott, 2001; Lundhal et al., 2006).

[16]In analyses of change it is usual to refer to the magnitude of the "effect size" in terms of "standard deviations". According to Scott et al (2005a) a standard deviation allows comparison of the magnitude of change and equals the difference in mean scores following treatment divided by the sample SD prior to treatment.

Analyses of change were performed initially on an intention to treat (IT) basis (i.e. all assigned cases, irrespective of attendance to the parenting programme) with subsequent per protocol (PP) analysis of change (i.e. only cases of highest attendance vs. controls), which allows examining impact of attendance on parent/child behaviour following the intervention. Specifically, whereas an intention to treat analysis is useful in indicating the amount of change that might be expected in the whole sample allocated to the intervention, a per protocol analysis allows to see whether only those parents who attended the intervention changed, i.e. if many had dropped out, an intention to treat analysis might underestimate the effectiveness of the intervention, since it includes those parents who didn't attend (Scott et al., 2005a).

In terms of measurable change in parent and child behaviour following treatment, this is expected to be smaller for trial completers (i.e. parents selected on intention to treat basis thus potentially including absentees and/or those with low attendance rates) than for treatment completers (i.e. parents selected on a per protocol basis and thus including those with high attendance to the programme) (Scott, 2001).

Results of intention to treat analysis of change are provided in Table 22 below. Subsequently, Table 23 presents the results of per protocol analysis of change.

Table 22 – Change from pre-treatment to follow-up in observed parent and child behaviour – Intention to treat analysis (Total N = 78 pairs)

Parent & Child Observation-al Measures	Time Point	Group Condition		Difference between Intervention and Control groups					
		Intervention Group (N = 39) Mean (SD)	Control Group (N = 39) Mean (SD)	*Mean Difference in change between groups [95% C.I.]*	*Effect size (d) (Means)*	*T-Test p value (2 -tailed)*	*Unstandardised Beta (Regression)*	*Effect Size (d) (Regression)*	*Regression (p-value)*
Sensitive Responding	Pre-Treatment	10.79 (3.45)	11.08 (3.82)	1.41 [0.05-2.77]	**0.39**	**0.04**	1.32	**0.37**	**0.04**
	Follow-Up	11.44 (4.08)	10.31 (3.29)						
Parent Positive Affect	Pre-Treatment	7.36 (2.91)	8.59 (4.00)	0.90 [0.42-2.21]	0.26	0.18	0.28	0.08	0.60
	Follow-Up	7.92 (2.59)	8.26 (3.21)						
Parent-Child Mutuality	Pre-Treatment	8.49 (3.00)	9.23 (3.69)	1.18 [0.42-2.78]	0.35	0.15	0.81	0.24	0.26
	Follow-Up	9.51 (3.63)	9.08 (3.45)						
Parent Negative Behaviour	Pre-Treatment	10.35 (4.28)	9.54 (3.40)	0.96 [0.53-2.45]	0.25	0.20	-0.64	0.16	0.34
	Follow-Up	9.87 (3.90)	10.03 (3.58)						
Clear Commands	Pre-Treatment	96.72 (54.66)	86.59 (53.20)	0.10 [20.99-21.19]	0.00	0.99	5.23	0.10	0.55
	Follow-Up	90.15 (52.11)	79.92 (39.77)						
Criticism	Pre-Treatment	1.05 (1.21)	0.86 (0.96)	0.35 [0.07-0.76]	0.32	0.10	-0.26	0.24	0.15
	Follow-Up	0.87 (0.95)	1.03 (0.98)						

Beta Commands	Pre-Treatment	9.85 (7.57)	7.92 (5.40)	0.82 [2.56-4.20]	0.12	0.63	0.84	0.13	0.46
	Follow-Up	7.85 (4.84)	6.74 (5.13)						
Chain Commands	Pre-Treatment	48.41 (35.05)	42.05 (29.51)	1.46 [11.31-14.23]	0.05	0.82	1.97	0.06	0.70
	Follow-Up	42.67 (35.05)	37.77 (22.55)						
Parental Attending	Pre-Treatment	4.88 (2.28)	5.30 (1.88)	1.25 [0.26-2.23]	**0.60**	**0.01**	1.03	**0.49**	**0.02**
	Follow-Up	5.48 (2.41)	4.66 (1.86)						
Child Attention on Task	Pre-Treatment	17.33 (2.65)	17.87 (2.47)	0.85 [0.28-1.98]	0.33	0.14	0.54	0.24	0.25
	Follow-Up	18.82 (2.35)	18.51 (2.33)						
Child Positive Affect	Pre-Treatment	7.77 (3.17)	9.72 (3.75)	1.97 [0.50-3.45]	**0.55**	**0.01**	0.96	0.27	0.14
	Follow-Up	8.59 (2.79)	8.56 (3.58)						
Child Social Responsive-ness	Pre-Treatment	10.46 (4.37)	11.18 (4.70)	0.95 [0.87-2.77]	0.21	0.30	0.54	0.12	0.45
	Follow-Up	11.56 (3.15)	11.33 (4.11)						
Child Negative Behaviour	Pre-Treatment	23.10 (15.56)	19.28 (12.96)	1.90 [3.24-7.03]	0.13	0.46	-0.02	0.00	0.99
	Follow-Up	19.74 (12.50)	17.82 (10.50)						

Table 23 – Change from pre-treatment to follow-up in observed parent and child behaviour – Per protocol analysis (Total N = 54 pairs)

Parent & Child Observational Measures	Time Point	Group Condition		Difference between Intervention and Control groups					
		Intervention Group (5 plus sessions attended) (N = 15)	**Control Group** (N = 39)	*Mean Difference in change between groups [95% C.I.]*	*Effect size (d) (Means)*	*T-Test p value (2-tailed)*	*Unstandardised Beta (Regression)*	*Effect Size (d) (Regression)*	*Regression (p-value)*
Sensitive Responding	Pre-Treatment	11.40 (3.60)	11.08 (3.82)	2.37 [0.68-4.06]	**0.64**	**0.01**	2.48	**0.67**	**0.00**
	Follow-Up	13.00 (3.82)	10.31 (3.29)						
Parent Positive Affect	Pre-Treatment	8.00 (3.05)	8.59 (4.00)	0.47 [1.34-2.27]	0.13	0.61	0.19	0.05	0.80
	Follow-Up	8.13 (2.75)	8.26 (3.21)						
Parent-Child Mutuality	Pre-Treatment	8.27 (2.25)	9.23 (3.69)	1.69 [0.40-3.77]	0.50	0.11	1.19	0.35	0.20
	Follow-Up	9.80 (3.12)	9.08 (3.45)						
Parent Negative Behaviour	Pre-Treatment	9.69 (4.11)	9.54 (3.40)	1.09 [1.68-3.85]	0.30	0.42	-1.02	0.28	0.30
	Follow-Up	9.09 (3.98)	10.03 (3.58)						
Clear Commands	Pre-Treatment	73.40 (37.22)	86.59 (53.20)	18.33 [9.12-45.79]	0.10	0.17	11.54	0.23	0.32
	Follow-Up	85.07 (54.50)	79.92 (39.77)						
Criticism	Pre-Treatment	1.04 (0.96)	0.86 (0.96)	0.37 [0.19-0.93]	0.40	0.19	-0.29	0.31	0.25
	Follow-Up	0.83 (0.83)	1.03 (0.98)						

Beta Commands	Pre-Treatment	10.33 (8.07)	7.92 (5.40)	2.69 [1.65-7.02]	0.43	0.22	0.62	0.10	0.67
	Follow-Up	6.47 (3.68)	6.74 (5.13)						
Chain Commands	Pre-Treatment	38.67 (19.11)	42.05 (29.51)	0.48 [14.46-15.42]	0.02	0.95	1.31	0.05	0.83
	Follow-Up	34.87 (26.27)	37.77 (22.55)						
Parental Attending	Pre-Treatment	5.18 (2.51)	5.30 (1.88)	2.02 [0.88-3.16]	**1.01**	**0.00**	1.96	**0.98**	**0.00**
	Follow-Up	6.55 (2.05)	4.66 (1.86)						
Child Attention on Task	Pre-Treatment	17.13 (3.00)	17.87 (2.47)	2.03 [0.45-3.60]	**0.78**	**0.01**	1.55	**0.60**	**0.01**
	Follow-Up	19.80 (1.57)	18.51 (2.33)						
Child Positive Affect	Pre-Treatment	7.80 (3.08)	9.72 (3.75)	1.62 [0.39-3.63]	0.44	0.11	0.70	0.19	0.44
	Follow-Up	8.27 (2.69)	8.56 (3.58)						
Child Social Responsiveness	Pre-Treatment	10.00 (3.80)	11.18 (4.70)	1.05 [1.31-3.40]	0.23	0.38	0.45	0.10	0.65
	Follow-Up	11.20 (2.88)	11.33 (4.11)						
Child Negative Behaviour	Pre-Treatment	21.40 (16.63)	19.28 (12.96)	1.01 [5.61-7.62]	0.07	0.76	-0.09	0.01	0.97
	Follow-Up	18.93 (10.71)	17.82 (10.50)						

Results in Tables 22 and 23 show that 1) for all assigned cases, the intervention was associated with a significant increase in observed Sensitive Responding 6 months after the intervention ended. The effect of the intervention was to increase sensitive responding 1.32 ($p<.05$) points on a 7-point scale. Also, the effect size obtained for the change in Sensitive Responding was of 0.4 standard deviations, which proves very satisfactory, as this is a prevention trial[17] (Scott et al., 2005a). When looking at the effect of the highest level of attendance to the programme on observed Sensitive Responding, results show that those parents who attended five or more sessions showed an increase of 2.48 ($p<.01$), an effect size of 0.7 standard deviations. This is a substantial increase given the 7-point scale and the marked stability over time; 2) for all assigned cases, there was a significant effect of the intervention in increasing observed Parental Attending by a frequency count of 1.03 ($p<.05$), which corresponds to a moderate effect size of 0.5 standard deviations. For those with the highest attendance to the programme, the effect of the intervention on observed Parental Attending was to increase its frequency count by 1.96 ($p<.01$), corresponding to a large effect size of 1.0 standard deviations; 3) finally, only for children of parents with the highest attendance to the programme, the effect of the intervention was to significantly increase observed Child Attention on Task 1.55 ($p<.05$) points on a 7-point scale, a moderate to high effect size of 0.6 standard deviations.

To summarise: 1) observed attachment-related Sensitive Responding and social learning based Parental Attending significantly improved following treatment (both in intention to treat and per protocol analyses), whilst no improvement took place for Directives, and 2) of all the observed child behaviours only Child Attention on Task significantly improved following treatment (per protocol analysis only). Improvements in these parent and child outcomes are depicted in figures 1 to 3 below.

Overall, results provide strong support to H7 and only partial support to H8.

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[17] In prevention trials, effect sizes obtained are usually small (*d=.20)* or moderate (*d=.50)* at best whereas in clinical trials sometimes they are large (*d≥.80)* (Scott et al., 2005a).

Figure 1: Changes in Sensitive Responding

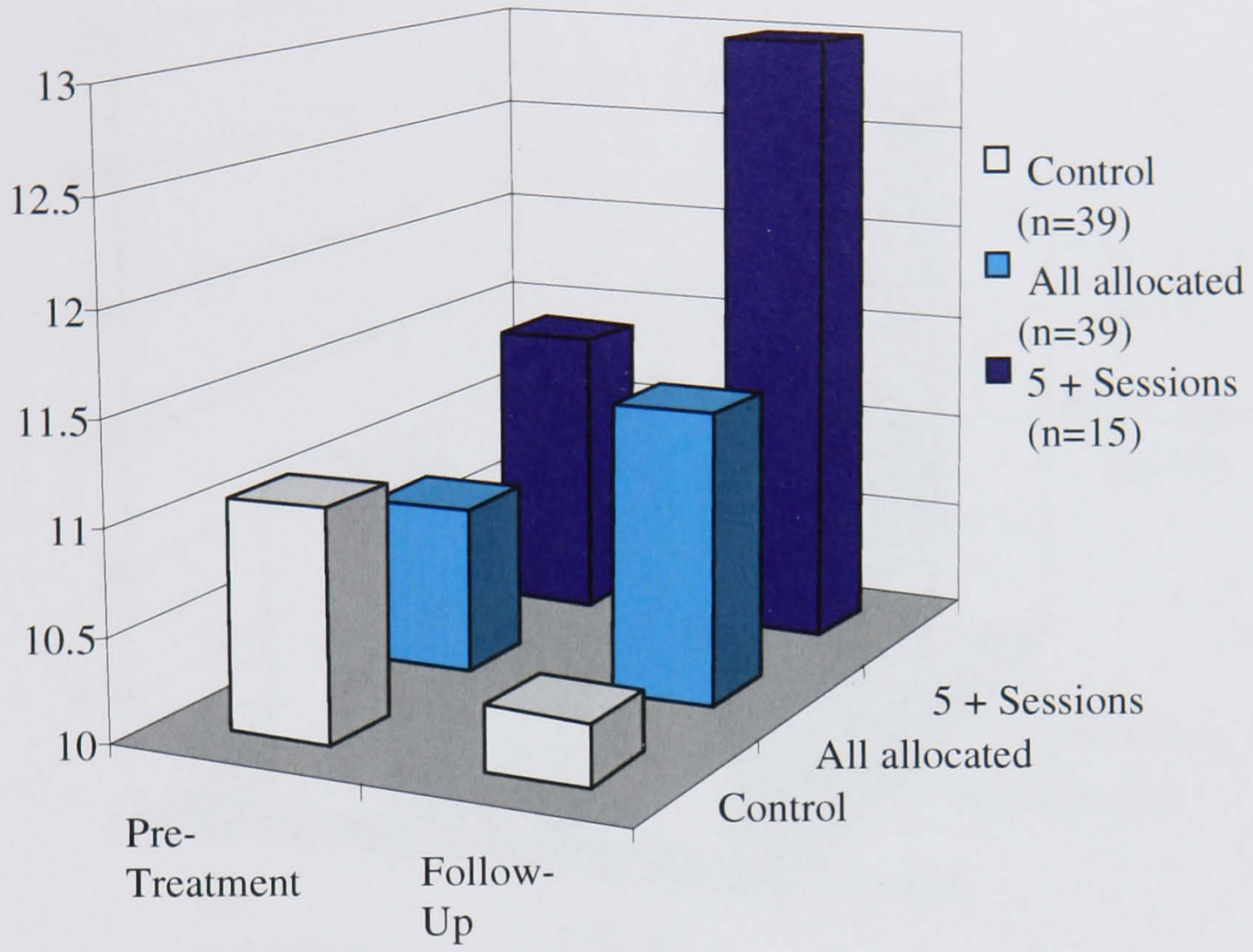


Figure 2: Changes in Parental Attending

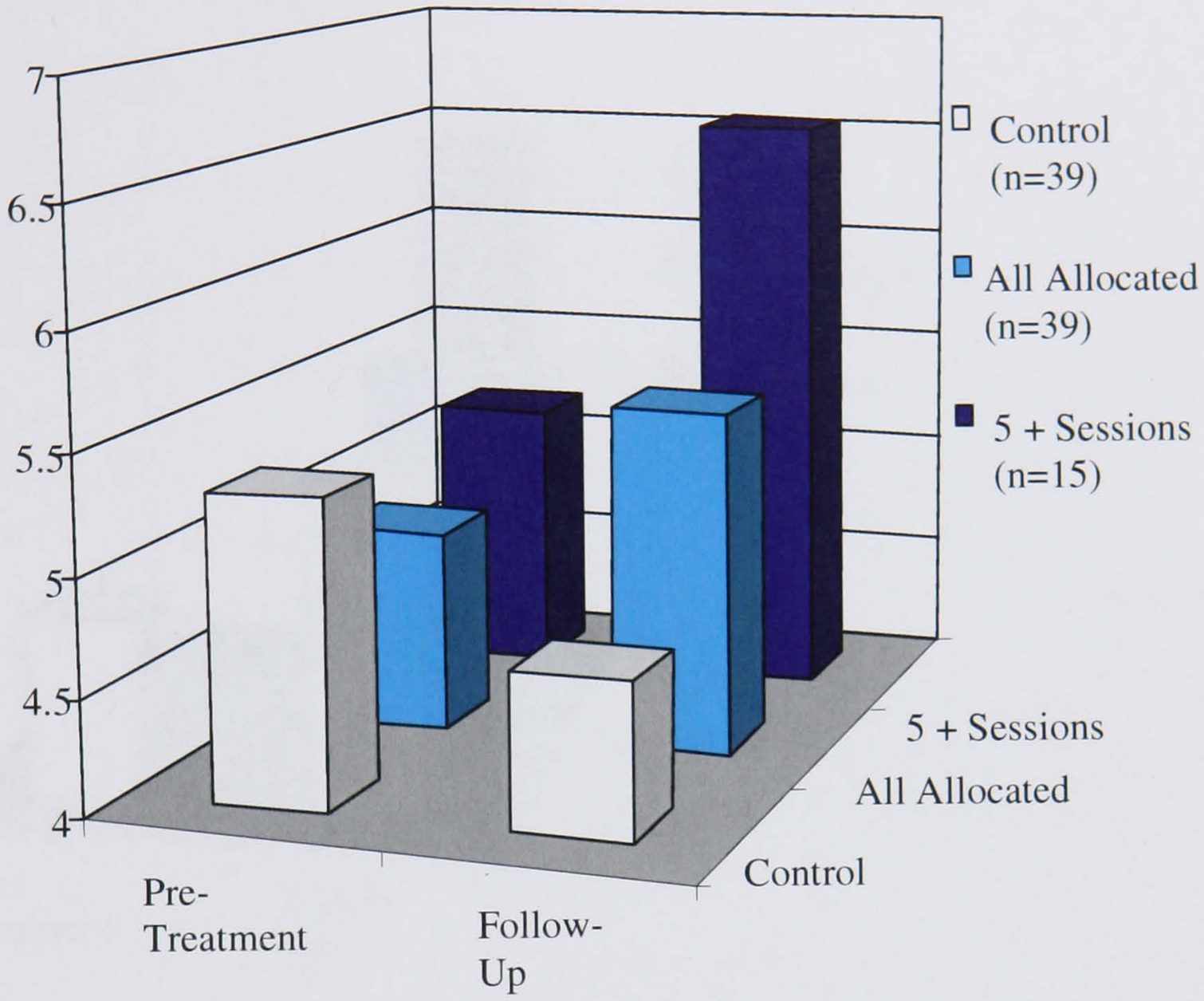
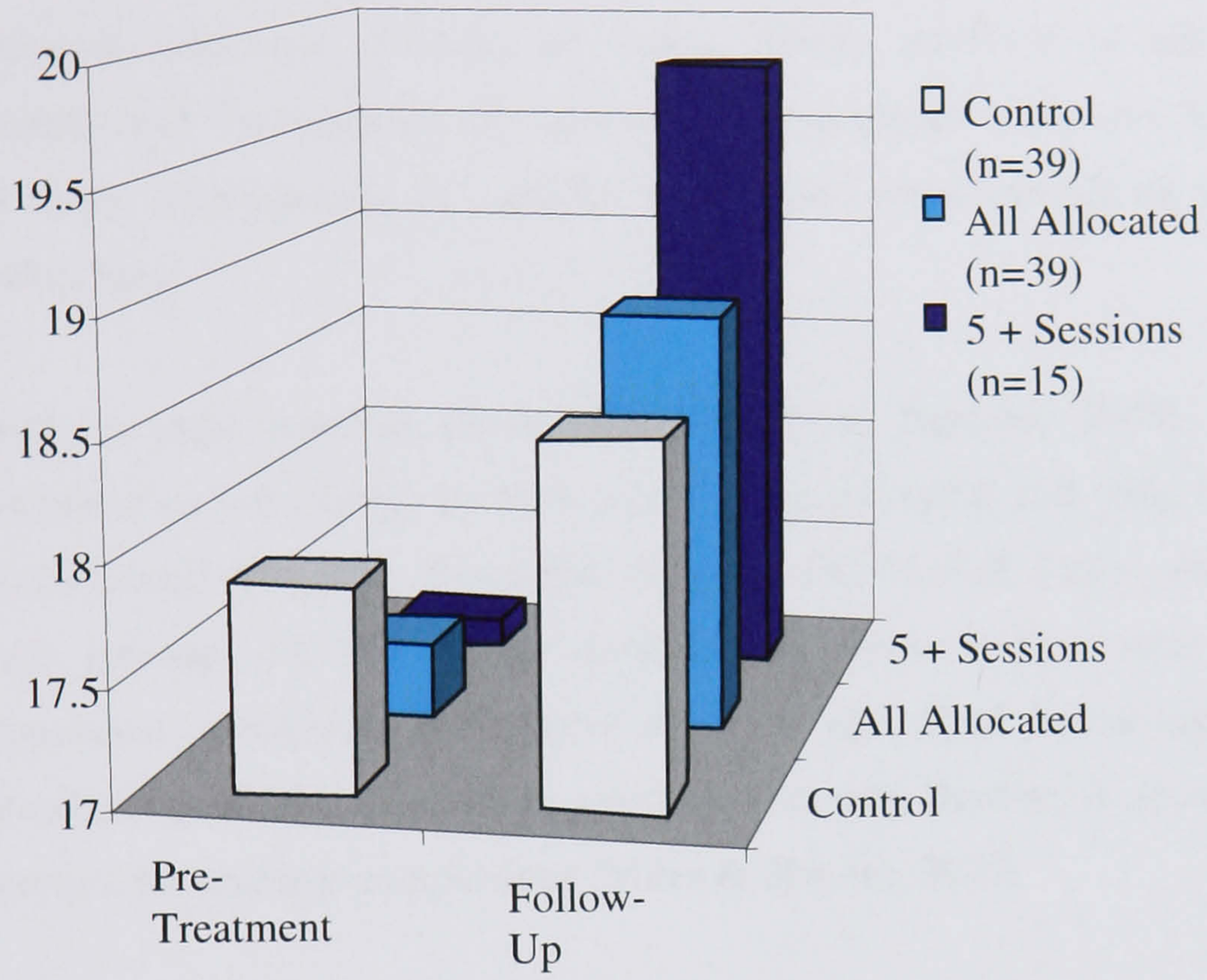


Figure 3: Changes in Child Attention on Task



6.1.7. Additional analyses

6.1.7.1. Variation in observed parent and child behaviour according to sample characteristics (time 1)

To investigate potential variation in observed parent and child behaviour according to demographic characteristics mean differences analysis of variance (ANOVA) were conducted. This procedure allows determining the effect of categorical variables on continuous outcomes (Dancey & Reidy, 2002). ANOVA is also robust if the assumption of "homogeneity of variance" between groups is not met. As was the case in this study, heterogeneity of variance is expected when comparing groups relatively small in size.

Based on prior research (Scott, 2001; Kelly & Barnard, 2000), specific sample characteristics were likely to have an effect on parenting and child behaviour. These were: Parental Ethnicity, Education, Income, and Marital Status, and Child Gender. When running ANOVA, these demographic characteristics were entered as the independent variable(s) and observed parent and child behaviour entered as the dependent variable(s). In addition, post-hoc tests with Bonferroni adjustment were used to correct for multiple comparisons (Miles & Shevlin, 2005).

Results of analysis of variance (ANOVA) are presented in Table 24 below and Tables 25-29 (Appendices Q1-Q5).

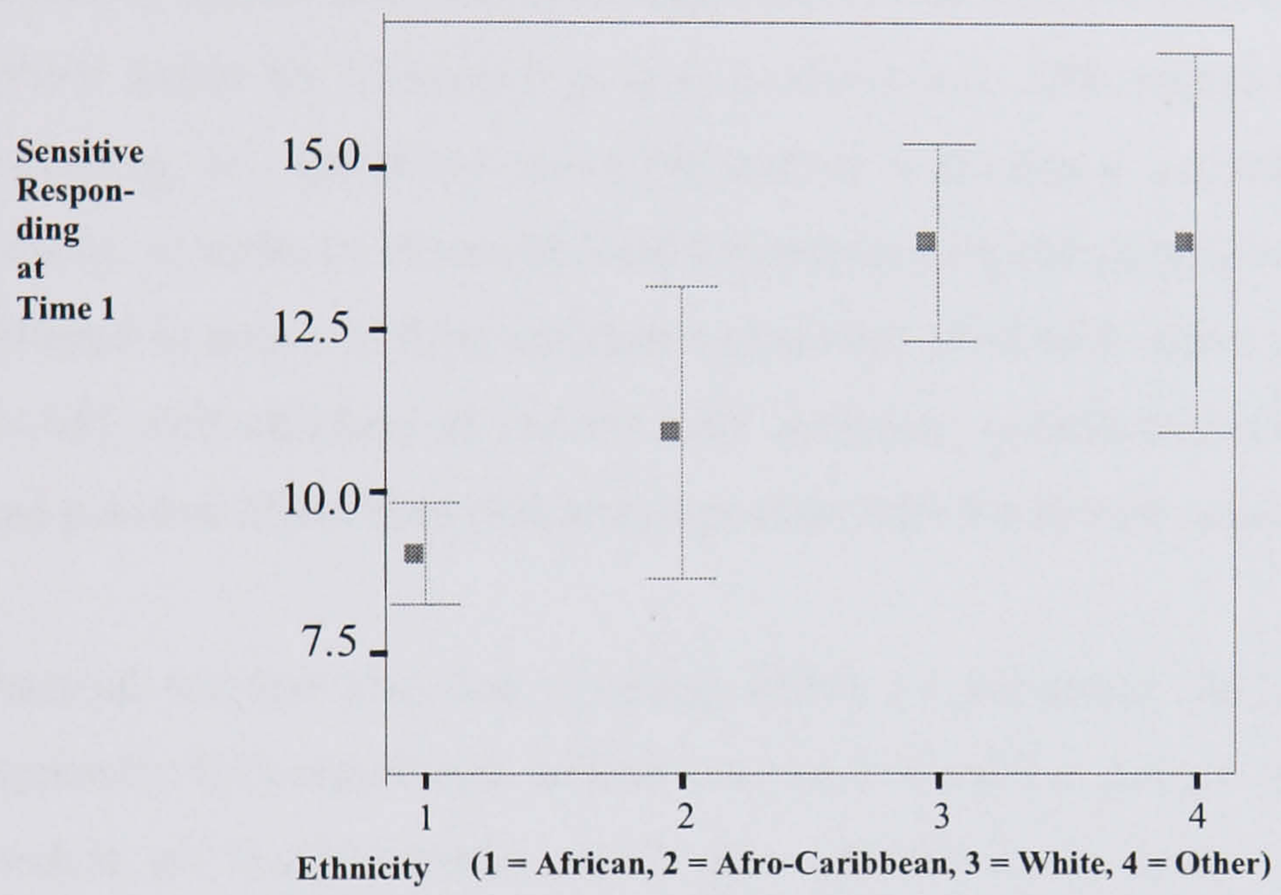
Table 24 - ANOVA Mean differences in observed parent and child behaviour according to parental ethnicity at time 1

	Observed Attachment-Related/Positive Parenting				**Observed Negative & Disciplinary/Harsh Parenting**				
Ethnic Groups	*Sensitive Responding Mean (sd)*	***Parent Positive Affect*** *Mean (sd)*	Parent-Child Mutuality *Mean (sd)*	Parental Attending *Mean (sd)*	***Parent Negative Behaviour*** *Mean (sd)*	Clear Commands *Mean (sd)*	Beta Commands *Mean (sd)*	Chain Commands *Mean (sd)*	Criticism *Mean (sd)*
West African (n= 43)	9.26 (3.19)	6.86 (3.18)	7.40 (2.73)	4.54 (2.35)	11.54 (4.00)	92.00 (53.54)	8.19 (6.62)	45.30 (30.95)	1.23 (1.30)
White British (n=17)	13.12 (3.92)	9.00 (3.43)	10.65 (3.87)	5.95 (1.92)	8.14 (2.22)	100.65 (61.73)	11.53 (6.37)	45.06 (30.57)	0.84 (0.80)
Black Afro-Caribbean (n=16)	11.94 (3.11)	8.81 (3.69)	9.44 (3.35)	5.47 (1.64)	7.70 (2.41)	91.19 (56.09)	9.88 (7.36)	42.19 (40.72)	0.74 (0.83)
Other Ethnicity (n=5)	13.60 (2.51)	11.20 (2.86)	10.40 (2.79)	6.16 (1.60)	7.47 (3.57)	87.40 (28.18)	12.60 (10.43)	46.60 (22.17)	0.00 (0.00)
All groups (n=81)	10.86 (3.70)	7.96 (3.51)	8.67 (3.38)	5.10 (2.17)	9.82 (3.82)	93.37 (53.97)	9.49 (7.01)	44.72 (32.05)	0.98 (1.12)
	F(3,77)=7.72 (.00)	**F(3,77)=4.06 (.01)**	**F(3,77)=5.49 (.00)**	F(3,77)=2.63 (.06)	**F(3,77)=7.95 (.00)**	F(3,77)= 0.14 (.94)	F(3,77)=1.34 (.27)	F(3,77)=0.04 (.99)	F(3,77)=2.47 (.07)
	Contrasts: West African < White British **(p<0.01)**, Other Ethnicity & Black Afro-Caribbean **(p<0.05)**	Contrasts: West African < Other Ethnicity **(p<0.05)**	Contrasts: West African < White British **(p<0.01)**		Contrasts: West African > White British & Black Afro-Caribbean **(p<0.01)** - Note: Levene = 2.79 **(p = 0.05)**				Note: Levene = 5.15 **(p = 0.00)**

Ethnic Groups	**Observed Child Behaviour**			
	Child Attention on Task Mean (sd)	Child Positive Affect Mean (sd)	Child Social Responsiveness Mean (sd)	Child Negative Behaviour Mean (sd)
West African (n=43)	17.84 (2.45)	7.98 (3.71)	9.53 (4.67)	18.65 (11.96)
White British (n=17)	17.18 (3.23)	9.76 (2.93)	12.59 (3.08)	30.24 (19.60)
Black Afro-Caribbean (n=16)	17.75 (2.18)	10.19 (3.45)	11.44 (4.69)	22.56 (10.25)
Other Ethnicity (n=5)	16.80 (1.79)	8.60 (2.88)	13.40 (4.34)	20.80 (13.39)
All groups (n=81)	17.62 (2.53)	8.83 (3.54)	10.79 (4.52)	21.99 (14.19)
	F(3,77)=0.46 (.71)	F(3,77)=2.10 (.11)	F(3,77)=2.85 (.04)† †Contrast not significant	**F(3,77)=2.93 (.04)** Contrasts: West African < White British **(p<.05)** - Note: Levene = 2.67 **(p=.05)**

Results in Table 24 above show that there were significant mean differences between all ethnic groups in terms of all observed attachment-related parenting behaviours, i.e. Sensitive Responding [F (3,77) = 7.72, p<.01], Parent Positive Affect [F (3,77) = 4.06, p<.05], and Mutuality [F (3,77) = 5.49, p<.01]. Specifically, West African parents were significantly less sensitive, less mutual and displayed less positive affect than White-British, Black Afro-Caribbean, and parents of 'Other ethnicity'. Mean differences in Sensitive Responding according to ethnicity are depicted in figure 4 below.

Figure 4: Sensitive Responding baseline ratings per ethnic group



Significant differences per ethnic group were also found for observed Parent Negative Behaviour [F (3,77) = 7.95, p<.01][18] with West African parents displaying significantly more negative behaviour than White-British and Black Afro-Caribbean groups.

Other ethnicity outcomes indicated that whereas there were no significant mean differences in observed social learning based parenting, there was significant variation in observed child behaviour per ethnic group in terms of observed Child Negative Behaviour [F (3,77) = 2.93, p<.05][19]. In particular, children of White-British parents were significantly more negatively behaved than children of West African parents. Although ANOVA indicated that there was also a significant effect of ethnicity on Child Social Responsiveness [F (3,77) = 2.85, p <.05] with children of West African

[18] When comparing groups for Parent Negative Affect, no homogeneity of variance was found (Levene = 2.79, p = .05).
[19] When comparing groups for Child Negative Behaviour, no homogeneity of variance was found (Levene = 2.67, p = .05).

parents having lower mean values of observed responsiveness compared to other ethnic groups, contrasts between groups were not significant making this finding not a robust one.

In terms of parental education (Table 25 in Appendix Q1), significant differences were found for attachment-related parenting, i.e. Sensitive Responding [F (2,78) = 5.28, p<.01], Parent Positive Affect [F (2,78) = 5.08, p<.01], and Mutuality [F (2,78) = 4.18, p<.05][20]. Specifically, parents with technical qualifications were significantly less sensitive, mutual and displayed significantly less positive affect than parents who ended school before/by 16 years (i.e. lowest education). With regard to social learning based parenting, no significant mean differences were found according to education level. Finally, in terms of observed child behaviour, parental groups of varied education levels differed in terms of their children's observed level of Positive Affect [F (2,78) = 3.99, p<.05] with children of parents with technical qualifications displaying significantly less positive affect than children of parents with the lowest education level.

Parental income also had a strong effect on parenting. As shown in Table 26 (in Appendix Q2) significant differences were found for groups of lowest (≤£175/week), modest (£176-£325/week) and higher (≥£326/week) income in terms of Sensitive Responding [F (2,78) = 4.99, p<.01], Mutuality [F (2,78) = 4.06, p<.05], and Parental Attending [F (2,78) = 5.50, p<.01]. Specifically, parents of higher income were significantly more sensitive, mutual, and child-centred than parents of lower and modest income levels. There were however, no significant mean differences in social learning based parenting and in observed child behaviour according to parental income.

Parenting was also affected by parents' marital and separation status. In terms of marital status (Table 27 in Appendix Q3), significant group differences were identified for Parent Negative Behaviour [F (2,82) = 4.09, p<.05], Chain Commands [F (2,82) = 3.79, p<.05][21], and Criticism [F (2,82) = 3.13, p<.05] with lone parents scoring significantly higher in negative behaviour and in criticism than married parents, whereas cohabiting parents scored significantly lower in chain commands compared to lone parents. In terms of parental separation (Table 28 in Appendix Q4), significant group differences

[20] No homogeneity of variance was found when comparing groups for these outcomes (Levene = 5.13, p=.01, Levene = 4.70, p=.01, and Levene = 4.06, p=.02, respectively).
[21] No homogeneity of variance was found when comparing groups for this outcome (Levene = 3.78, p = .03).

were also identified for Parent Negative Behaviour [F (1,83) = 3.96, p = .05] as well as for Criticism [F (1,83) = 4.77, p<.05] [22]. Specifically, significantly more parent negative behaviour as well as criticism was observed in separated parents when compared to non-separated parents. Both marital and separation status however, did not have a significant effect in attachment-related parenting or in observed child behaviour.

Finally, as shown in Table 29 (in Appendix Q5), there were no significant mean differences in parenting or child behaviour according to child's gender.

Further ANOVAS were conducted to identify potential interaction effects of four main demographic factors (i.e. Ethnicity, Education, Income, and Marital Status) on observed parent and child behaviour at time 1. Analysis of these moderator effects using ANOVA consisted of entering the interaction term (e.g. ethnicity X income) for each IV separately (e.g. Sensitive Responding at Time 1) (Miles & Shevlin, 2005). Most outcomes indicated that whereas parental behaviour, seemed to be mainly affected by factors interacting with income and marital status, child behaviour was mainly affected by factors interacting with parental ethnicity. However, these findings lack robustness as the sample is underpowered to detect interaction effects.

In addition to examining variation in parenting and child behaviour according to key demographic characteristics, two additional outcomes indexing key risk factors often associated with negative parenting and poor child outcomes – parental mental health and sense of competence as a parent – were also studied in terms of their association with observed parenting and child behaviour. Specifically, Pearson product moment correlations were used to investigate the association between observed parent and child behaviour and reported parental mental health as measured by the General Health Questionnaire (GHQ) (Goldberg, 1972) and the parent's perception of how capable they are in their parenting as measured by the Parental Sense of Competence (PSOC) questionnaire (Johnston & Mash, 1989).

Results of correlations are presented in Tables 30 and 31 below.

[22] No homogeneity of variance was found when comparing groups for this outcome (Levene = 6.86, p = .01).

Table 30 - Zero-order correlations between observed parenting, reported parental mental health, and reported parental sense of competence

	Direct Observation Parenting Measures								
	Observed Attachment-related/ Positive Parenting				Observed Negative & Social-Learning based Disciplinary/Harsh Parenting				
Reported Mental Health & Sense of Competence	Sensitive Responding	Parent Positive Affect	Mutuality	Parental Attending	Parent Negative Behaviour	Clear Commands	Beta Commands	Chain Commands	Criticism
GHQ total score	0.11	-0.11	0.07	0.15	-0.00	0.10	0.14	0.08	0.15
PSOC total score	0.12	0.23*	0.22*	-0.06	-0.07	0.05	-0.15	0.08	-0.14

(N = 86) *p<.05

Table 30 indicates that both observed Parent Positive Affect and Mutuality positively correlated with parental sense of competence (r = .23, p<.05, and r =.22, p<.05 respectively). No other significant associations were found between any of the parenting measures and reported sense of competence and mental health.

Table 31 - Zero-order correlations between observed child behaviour, reported parental mental health, and reported parental sense of competence

	Direct Observation Child Measures			
Reported Mental Health & Sense of Competence	Child Attention on Task	Child Positive Affect	Child Social Responsiveness	Child Negative Behaviour
GHQ score	-0.07	-0.17	0.06	0.29*
PSOC score	0.11	0.25*	0.20	-0.22*

(N = 86) *p<.05

Results in Table 31 indicated that whereas PSOC scores were positively correlated with Child Positive Affect (r = .25, p<.05), they negatively correlated with Child Negative Behaviour (r = -.22, p<.05). In addition, Child Negative Behaviour was positively correlated with GHQ scores (r = .29, p<.05).

6.1.7.2. Demographic predictors of change

Further examination of parent and child demographic factors that could potentially be associated with change in observed parent and child behaviour over time was conducted. Parental factors referred to age, ethnicity, education, employment, marital and separation status, income, housing, and reported mental health (i.e. GHQ scores) and sense of competence (i.e. PSOC scores). Child factors referred to age, gender, and number of siblings.

A series of stepwise regression analyses were conducted to examine the potential effect of parent/child demographic variables in observed parent and child behaviour from pre to follow-up. Each of the observed parent/child behaviours at time 3 were entered as the dependent variable in separate regression models. In step one of each model, observed parent/child behaviour at time 1 and treatment condition were entered as independent variables to determine the proportion of follow-up parent/child behaviour explained by the intervention whilst controlling for baseline levels of behaviour. At step two parent/child demographic characteristics were entered (in a single block) as the independent variables to see whether they would explain any additional variance over and above the effect of the intervention in follow-up parent/child behaviour. If the effect of specific parent/child demographic variables over and above the effect of the intervention was significant, this was indicated in the stepwise method by the significant value of the R Square Change statistic (Miles & Shevlin, 2005).

For their use in regression, categorical variables (e.g. ethnicity), were "dummy coded" first. "Binary coding" was the method chosen to dummy code all categorical variables. With binary coding, comparisons are made between a given dummy variable value and the value of an omitted reference variable (i.e. reference group). So, for example, the categorical variable of parental ethnicity, which in this study encompasses 4 categories (i.e. White British, West African, Black Afro-Caribbean, and Other Ethnicity), was re-coded into 3 dummy variables with "White-British" representing the reference group [i.e. one dummy was coded "1" for the West African group and "0" for all other ethnic groups, the second dummy was coded "1" for the Black Afro-Caribbean group and "0" for all other ethnic groups, and the third dummy was coded "1" for Other Ethnicity group and "0" for all other ethnic groups] (Miles & Shevlin, 2005; Stockburger, 1998).

In each regression model, if the contribution of each one of the independent variables was non-significant these were dropped from the equation and only those parent/child demographic factors that significantly contributed to parent/child outcome at follow-up were included in the final models. Also, regressions were performed to determine potential additional effects of parent/child demographic characteristics on outcomes for which the intervention had a significant effect (see above) as well as on those outcomes for which there was no significant intervention effects. Furthermore, regressions were performed for outcomes on an intention to treat and a per protocol basis as this allows a consideration of the robustness and consistency of results obtained.

Predictors of change in observed parent and child behaviour at follow-up over and above the effects of the intervention are presented in Tables 32a and 32b below.

Table 32 (a)– Regression models including predictors of change in observed parent behaviour over and above the effect of the intervention

Change in Observed PARENT POSITIVE AFFECT				Change in observed CRITICISM			
Fixed Effects	**Intention to treat** (N=78 pairs)	*Fixed Effects*	**Per Protocol** (N=54 pairs)	*Fixed Effects*	**Intention to treat** (N=78 pairs)	*Fixed Effects*	**Per Protocol** (N=54 pairs)
Parent Positive Affect Time 1	**0.500 (.078)****	**Parent Positive Affect Time 1**	**0.496 (.077)****	**Criticism Time 1**	**0.548 (.096)****	**Criticism Time 1**	**0.559 (.096)****
Intervention: all cases	0.197 (.553)	Intervention: 5 + sessions	-0.008 (.682)	Intervention: all cases	-0.182 (.192)	Intervention: 5 + sessions	-0.294 (.258)
	R^2 = .368; Adj R^2 = .350; F(2,72) = 20.941 (.000)		R^2 = .367; Adj R^2 = .349; F(2,72) = 20.841 (.000)		R^2 = .373; Adj R^2 = .351; F(2,58) = 17.220 (.000)		R^2 = .377; Adj R^2 = .355; F(2,58) = 17.538 (.000)
Parent Positive Affect Time 1	**0.621 (.079)****	**Parent Positive Affect Time 1**	**0.611 (.078)****	**Criticism Time 1**	**0.612 (.095)****	**Criticism Time 1**	**0.614 (.094)****
Intervention: all cases	0.347 (.510)	Intervention: 5 + sessions	-0.007 (.637)	Intervention: all cases	-0.043 (.184)	Intervention: 5 + sessions	-0.247 (.240)
West African	-1.303 (.801)	West African	-1.352 (.803)	Parent left school by 16	**0.479 (.199)***	Parent left school by 16	**0.485 (.197)***
Black Afro-Caribbean	**-1.896 (.925)***	Black Afro-Caribbean	**-1.952 (.934)***				
Other Ethnicity	**-2.456 (1.126)***	Other Ethnicity	**-2.429 (.035)***				
Parent left school by 16	**-2.565 (.689)****	Parent left school by 16	**-2.569 (.692)****				
Parent with Higher Degree	-1.301 (.731)	Parent with Higher Degree	-1.267 (.732)	Parent with Higher Degree	-0.134 (.275)	Parent with Higher Degree	-0.145 (.273)
Separated Parents	**1.198 (.560)***	Separated Parents	**1.185 (.565)***				
	R^2 Change significant (p = .004) R^2 = .521; Adj R^2 = .463; F(8,66) = 8.973 (.000)		**R^2 Change significant (p = .005)** R^2 = .518; Adj R^2 = .459; F(8,66) = 8.854 (.000)	GHQ score Time 1	**-0.042 (.017)***	GHQ score Time 1	**-0.041 (.016)***
					R^2 Change significant (p = .010) R^2 = .489; Adj R^2 = .443; F(5,55) = 10.526 (.000)		**R^2 Change significant (p = .007)** R^2 = .498; Adj R^2 = .453; F(5,55) = 10.918 (.000)

Note: ***For fixed effects***, estimates represent regression coefficient with ***standard error***. * p <.05, ** p < .01

Table 32 (b)– Regression models including predictors of change in observed child behaviour over and above the effect of the intervention							
Change in observed CHILD ATTENTION ON TASK				**Change in Observed CHILD SOCIAL RESPONSIVENESS**			
Fixed Effects	**Intention to treat** (N=78 pairs)	*Fixed Effects*	**Per Protocol** (N=54 pairs)	*Fixed Effects*	**Intention to treat** (N=78 pairs)	*Fixed Effects*	**Per Protocol** (N=54 pairs)
Child Attention on Task Time 1	**0.439 (.092)****	**Child Attention on Task Time 1**	**0.475 (.087)****	**Child Social Responsiveness Time 1**	**0428 (.080)****	**Child Social Responsiveness Time 1**	**0.425 (.081)****
Intervention: all cases	0.544 (.470)	Intervention: 5 + sessions	**1.316 (.563)***	Intervention: all cases	0.644 (.731)	Intervention: 5 + sessions	0.291 (.944)
	R^2 = .235; Adj R^2 = .214; F(2,75) = 11.488 (.000)		R^2 = .325; Adj R^2 = .306; F(2,72) = 17.342 (.000)		R^2 = .285; Adj R^2 = .266; F(2,72) = 14.380 (.000)		R^2 = .279; Adj R^2 = .259; F(2,75) = 13.908 (.000)
Child Attention on Task Time 1	**0.417 (.085)****	**Child Attention on Task Time 1**	**0.427 (.080)****	**Child Social Responsiveness Time 1**	**0.469 (.076)****	**Child Social Responsiveness Time 1**	**0.467 (.076)****
Intervention: all cases	0.746 (.436)	Intervention: 5 + sessions	**1.900 (.516)****	Intervention: all cases	-0.257 (.742)	Intervention: 5 + sessions	-0.989 (.950)
Child is Male	**-1.671 (.437)****	Child is Male	**-1.740 (.409)****	PSOC score at Time 1	**-0.122 (.038)****	PSOC score at Time 1	**-0.132 (.037)****
	R^2 Change significant (p = .000) R^2 = .361; Adj R^2 = .335; F(3,74) = 13.925 (.000)		**R^2 Change significant (p = .000)** R^2 = .438; Adj R^2 = .415; F(3,74) = 19.240 (.000)		**R^2 Change significant (p = .002)** R^2 = .377; Adj R^2 = .351; F(3,71) = 14.343 (.000)		**R^2 Change significant (p = .001)** R^2 = .386; Adj R^2 = .360; F(3,71) = 14.859 (.000)
Note: ***For fixed effects***, estimates represent regression coefficient with ***standard error***. *** p <.05, ** p < .01**							

a) Predictors of change in observed parent behaviour

Results in Table 32a indicate that a) at step 1, although the effect of the intervention was to increase Parent Positive Affect for all parents that were allocated to the intervention group (i.e. intention to treat) this was non-significant (beta = 0.20, p>.05). Both the baseline PPA score and intervention status accounted for 37% (p<.001) of the variance in PPA follow-up scores. After inclusion of sample characteristics (step 2) ethnicity, education and separation status were identified as significant predictors of outcome. Specifically, in relation to White British parents, being of Black Afro-Caribbean and of Other ethnic backgrounds predicted significant reduction in PPA at follow-up (beta = -1.90, p<.05, and beta = -2.46, p<.05, respectively). In addition, in relation to having a technical qualification, having left school by 16 significantly predicted reduction in PPA follow up scores (beta = -2.57, p<.01). Finally, in relation to non-separated parents, having separated from previous partners significantly predicted increase in PPA follow-up scores (beta = 1.20, p<.05). The inclusion of ethnicity, education and separation status to the model incremented explained variance by 15% (p<.01); b) for parents with the highest attendance to the programme (i.e. per protocol), at step 1 the effect of the intervention was negligible and non-significant (beta = -0.01, p>.05). Both the baseline PPA score and intervention status accounted for 37% (p<.001) of the variance in PPA follow-up scores. At step 2, in relation to White British parents, being of Black Afro-Caribbean and of Other ethnic backgrounds predicted significant reduction in PPA at follow-up (beta = -1.95, p<.05, and beta = -2.43, p<.05, respectively). Additionally, in relation to having a technical qualification, having left school by 16 significantly predicted reduction in PPA follow up scores (beta = -2.57, p<.01). Finally, in relation to non-separated parents, having separated from previous partners significantly predicted increase in PPA follow-up scores (beta = 1.19, p<.05). The inclusion of ethnicity, education and separation status to the model incremented explained variance by 15% (p<.05).

In summary, consistent/robust and significant predictors of reduction in Parent Positive Affect from Time 1 to Time 3 both on an intention to treat and per protocol basis were ethnicity, education and separation status. In other words, parents who did worse in terms of levels of Positive Affect following the intervention were a) those of Black Afro-Caribbean and of Other ethnic backgrounds (in relation to the White British), and b) those that left school before/by 16 (i.e. with the lowest level of education) in

comparison with parents that gained technical/professional qualifications. In contrast, parents who fared better in terms of levels of PPA following the intervention were those that had separated from previous partners in relation to those with partners/spouses. These outcomes were maintained even after controlling for all assigned cases vs. degree of attendance to the programme.

In a separate model Table 32a also indicates that a) at step 1 although the effect of the intervention was to decrease observed Criticism for all parents that were allocated to the intervention group (i.e. intention to treat) this was non-significant (beta = -0.18, p>.05). Both the baseline Criticism score and intervention status accounted for 37% (p<.001) of the variance in Criticism follow-up scores. After inclusion of sample characteristics (step 2) education status and the GHQ baseline score were identified as significant predictors of outcome. Specifically, in relation to having a technical qualification, having left school by 16 predicted significant increase in Criticism follow-up scores (beta = 0.48, p<.05), whereas having a higher degree predicted (non-significantly) reduction in Criticism follow-up scores (beta = -0.13, p>.05). Furthermore, the GHQ baseline score also predicted significant (but minimal) reduction in Criticism follow-up scores (beta = -0.04, p<.05). Both education status and the GHQ baseline score incremented explained variance by 12% (p<.05); b) for parents with the highest attendance to the programme (i.e. per protocol), at step 1 the effect of the intervention was to reduce Criticism follow-up scores but this was not significant (beta = -0.29, p>.05). Both the baseline Criticism score and intervention status accounted for 38% (p<.001) of the variance in Criticism follow-up scores. At step 2, in relation to having a technical qualification, having left school by 16 predicted significant increase in Criticism follow-up scores (beta = 0.49, p<.05), whereas having a higher degree predicted (but non-significantly) reduction in Criticism follow-up scores (beta = -0.15, p>.05). The GHQ baseline score also predicted significant (but minimal) decrease in Criticism follow-up scores (beta = -0.04, p<.05). Parent education status and the GHQ baseline score incremented explained variance by 12% (p<.05).

In summary, a robust significant predictor of increase in Criticism from Time 1 to Time 3 both on an intention to treat and per protocol basis was leaving school before/by 16. Thus, parents who did worse in terms of levels of Criticism towards their children following the intervention were those with the lowest level of education in comparison with parents that had technical/professional qualifications and this outcome was

maintained even after controlling for all assigned cases vs. degree of attendance to the programme.

Additionally, findings also suggest that the overall level of parental mental health reported at pre-treatment was significantly associated with a reduction (although minimal) in observed Criticism following the programme.

b) Predictors of change in observed child behaviour

Results in Table 32b indicate that a) at step 1, although the effect of the intervention was to increase Child Attention on Task for children of all parents that were allocated to the intervention group (i.e. intention to treat) this was non-significant (beta = 0.54, $p>.05$). Both the baseline CAT score and intervention status accounted for 24% ($p<.001$) of the variance in CAT follow-up scores. After inclusion of sample characteristics (step 2) child gender was identified as a significant predictor of outcome. Specifically, in relation to females, "being male" predicted reduction in CAT follow-up scores (beta = -1.67, $p<.01$) and incremented explained variance by 12% ($p<.001$); b) for children of parents with the highest attendance to the programme (i.e. per protocol), at step 1 the effect of the intervention was to significantly increase follow-up CAT scores (beta = 1.32, $p<.05$). Both the baseline CAT score and intervention status accounted for 33% ($p<.001$) of the variance in CAT follow-up scores. At step 2, over and above the significant effect of the intervention in increasing observed CAT at follow-up (beta = 1.90, $p<.01$), child gender was also a significant predictor of outcome. Specifically, in relation to females, "being male" predicted significant reduction in CAT follow-up scores (beta = -1.74, $p<.01$) and incremented explained variance by 11% ($p<.001$).

In summary, the single most robust and significant predictor of reduction in Child Attention on Task from time 1 to time 3 both on an intention to treat and per protocol basis was "being male". Thus, boys did significantly worse than girls in increasing levels of Child Attention on Task following the intervention and this effect was maintained even after controlling for all assigned cases vs. degree of attendance to the programme.

In a separate model Table 32b also indicates that a) at step 1, although the effect of the intervention was to increase observed Child Social Responsiveness for children of all parents that were allocated to the intervention group (i.e. intention to treat) this was non-significant (beta = 0.64, p>.05). Both the baseline CSR score and intervention status accounted for 29% (p<.001) of the variance in CSR follow-up scores. After inclusion of sample characteristics (step 2) the PSOC baseline score was identified as a significant predictor of outcome. Specifically, the PSOC total score at time 1 predicted significant reduction in CSR follow-up scores (beta = -0.12, p<.01) and incremented explained variance by 9% (p<.01); b) for children of parents with the highest attendance to the programme (i.e. per protocol), at step 1 the effect of the intervention was to increase follow-up CSR scores but this was non-significant (beta = 0.29, p>.05). Both the baseline CSR score and intervention status accounted for 28% (p<.001) of the variance in CSR follow-up scores. At step 2, the PSOC baseline score predicted significant reduction in CSR follow up scores (beta = -0.13, p<.01) and incremented explained variance by 11% (p<.01).

In summary, the single most robust and significant predictor of reduction in Child Social Responsiveness from time 1 to time 3 both on an intention to treat and per protocol basis was the PSOC baseline score. Thus, a significant reduction in the child's level of social responsiveness at follow-up was associated with their parent's reports of overall sense of parental competence at pre-treatment and this effect was maintained even after controlling for all assigned cases vs. degree of attendance to the programme.

No significant predictors of change were detected for all other parent and child observation variables of the study. These included those parenting outcomes for which the intervention was the only significant predictor of change at follow-up i.e. observed Sensitive Responding and Parental Attending (see Tables 22 and 23 above).

In summary, other than the predictors identified above regression analyses showed that neither parent nor child's age, income, housing condition, family size, employment or marital status were significantly associated with change over time in any of the observed parent/child behaviours.

Follow-up analyses were also conducted in order to identify potential moderator effects (i.e. whether there was differential treatment response according to different subgroups). Using multiple regression, each of the observed parent/child behaviours at Time 3 were entered as the DV and a total of four predictors were entered as IV. The predictors were 1) parent/child behaviour at Time 1, 2) group condition, 3) a third predictor of change (e.g. West African ethnicity), and 4) a fourth predictor of change, which corresponds to the interaction term (e.g. group condition X West African ethnicity) (Miles & Shevlin, 2005). These analyses showed that the effect of the intervention did not vary significantly across ethnic groups, i.e. there was not a significant interaction between intervention group and ethnicity for any of the observed parent/child behaviours.

6.1.7.3. Predicting change in child behaviour from change in parenting

One of the aims of this investigation was to establish whether change in attachment-related parenting (i.e. sensitivity) significantly contributes to change in child behaviour (e.g. reduction of problem behaviour), independent of social learning based parenting (e.g. use of clear vs. vague directives). This would extend current research as a) the testing of mediating mechanisms in the context of intervention research is relatively scarce (Forgatch & DeGarmo, 1999), and b) the studies identifying positive dimensions of parenting as mediators of treatment outcome over and above the predictive effects of negative parenting styles are limited in number (e.g. Martinez & Forgatch, 2001; Gardner et al., 2006a).

The testing of mediation effects would require that a) the treatment impacted on child outcome, b) the putative mediator (i.e. attachment-related parenting) is influenced by treatment (e.g. increased sensitivity) and associated with child outcome (e.g. reduction in problem behaviour), and that c) this variable interacts with treatment assignment in relation to child outcome (e.g. greater improvements in parenting and child outcome for parents in the intervention group compared to controls) (Hinshaw, 2002b). In this study however, analyses of change (Table 22 above) showed that the intervention had no significant effect on the main child outcome (i.e. antisocial behaviour), which precluded the testing of the potential mediating effect of attachment-related parenting as initially intended.

6.2. Results - Part B: Ethnicity findings

In this section, an exploratory analysis is presented of the three main ethnic groups that constitute the sample of this study – White British, West African and Black Afro-Caribbean. Although this study did not set out to investigate ethnic variation in parenting practices within the context of an intervention, having a sample so ethnically diverse led to important considerations regarding the potential role of ethnicity on parenting outcomes. In fact, the ANOVAS conducted with the main sample (see section 6.1.7.1. above) indicated significant mean differences in parenting outcomes according to ethnicity. Of even greater potential significance is whether or not there are differences in patterns of associations according to ethnic group. These differences could have substantial clinical and conceptual implications.

Recent studies have reported ethnicity effects in parenting practices, in particular the use of physical discipline (Lansford, Chang, Dodge, Malone, Oburu, Palmerus, Bacchini, Pastorelli, Bombi, Zelli, Tapanya, Chaudhary, Deater-Deckard, Manke, & Quinn, 2005). In the study by Deater-Deckard and colleagues (Deater-Deckard, Dodge, Bates, & Pettit, 1996), whereas higher levels of reported physical punishment positively correlated with higher levels of child externalising problems in European-American children, this correlation was negative and non-significant for African-American children. The authors suggested that this finding might be indicative of the differential meaning that physical discipline may have for different ethnic groups and thus potentially making the common conceptualisation of authoritarian parenting not generalisable across ethnic and cultural groups.

Observational studies have also reported patterns of associations between measures of parent-child interaction and indices of child socio-emotional development specific to different ethnic groups. Specifically, Bernstein et al (2005) conducted an exploratory study examining the factorial and concurrent construct validity of a culturally sensitive observational protocol for the assessment of parent-child interaction - the Parent Child Observation Guide (PCOG) in a large cross-site community-based non-clinical and deprived sample of Chinese immigrant, Latin American, Anglo-American, and African-American dyads of parents and their pre-school children. Main findings across all ethnic groups indicated that observed parental sensitivity positively correlated with child positive involvement, and observed parental effective discipline negatively correlated

with child non-compliance. However, key ethnicity-specific outcomes were (a) African-American parents displayed less sensitivity and teaching skills than Anglo-American parents, (b) African-American parents were in turn rated as displaying more effective discipline when interacting with their children and with the latter being the least non-compliant, and (c) even though low scores were obtained for observed parental sensitivity and teaching, African-American children were as positively involved with their parents as were Anglo-American children.

Overall, this evidence suggests that, when comparing various ethnic groups, whereas certain aspects of the parent-child relationship may be especially salient for the child's healthy development in a specific group others may be crucial at the cross-cultural level. Thus, although there is some evidence to suggest that specific core parenting constructs such as sensitivity may be cross-culturally relevant in promoting the parent-child positive involvement/attachment, parents of African-based cultural backgrounds seem to emphasise more aspects of discipline and compliance in their interactions with their children (with the latter positively responding to directive parenting in these groups as well), whereas parents of White/Western cultural backgrounds may place greater emphasis on meeting the emotional and cognitive needs of their children through increased displays of sensitive responding and teaching skills.

In intervention research, there is a pressing need to acquire information on ethnic variation to further improve the cultural sensitivity of parenting programmes (Kazdin, 2005; Webster-Stratton & Hooven, 1998). These efforts necessarily include the development of culturally informed assessment procedures and their subsequent validation with multi-ethnic samples. That is, the presumption is that, because naturalistic studies show qualitative differences in parent-child outcomes according to ethnicity, the latter will also moderate the effects of a parenting intervention – particularly one focused on replacing corporal punishment with alternative discipline strategies.

In observational research, some efforts have been made at the development/refinement of culturally anchored observational protocols for assessing parent-child interaction. However, in most cases the operationalisation of the observation parent and child codes captured by these measures is non-attachment-based and not focused on middle childhood. Additionally, although pre-existing observation coding schemes have been

used to assess dimensions of parent and child behaviour in multi-ethnic samples that have been targeted for intervention to prevent/reduce child problem behaviour (Reid et al., 2004; Harris et al., 2003; McMahon & Metzler, 1996) further investigation of the full effectiveness of interventions has been hampered. Main reasons for this include the relatively scant research conducted with an exclusive focus on investigating potential ethnic similarities or differences in the associations between parenting practices and child disruptive behaviour (Deater-Deckard et al., 1996), and examining whether these differences are more or less marked for some dimensions of parenting (e.g. sensitivity) in relation to others (e.g. discipline). Although there is strong evidence indicating that parenting programmes have been successful in changing parenting practices and child conduct problem across a wide range of ethnic groups (Webster-Stratton et al., 2001; Reid et al., 2004; Webster-Stratton & Hooven, 1998), less is known about the extent to which interventions are effective in bringing about changes in dimensions of parenting for different ethnic groups, other than those dimensions traditionally targeted for treatment (e.g. acquisition of effective disciplinary strategies, decrease of harsh/critical parenting and increase of positive reinforcement procedures such as praising of good behaviour).

Thus, further investigation of ethnic variation in parenting practices and the association with child difficult as well as adaptive behaviour and identification of specific dimensions of parenting where ethic differences may be more or less accentuated may provide interventionists with new ways in which to further promote the cultural sensitivity of their preventive/intervention efforts.

So far, research available on differences in parenting and child behaviour across ethnic groups has been mostly dependent on report data and focused on the single and specific parenting outcome of physical punishment and its association with externalisation problems in children (Lansford et al., 2005; Deater-Deckard et al., 1996). Observational studies looking at potential ethnic variation in parent-child interaction patterns and with a specific focus on other dimensions of parenting not directly linked with discipline (e.g. sensitivity and warmth) as well as positive aspects of child behaviour are scarce. An exception to this is the intervention study by Reid et al (2001), where the effectiveness of the Incredible Years parenting programme was evaluated in a deprived sample of 634 families from four ethnic groups. Using a wide range of measurement methods including direct observation, both dimensions of positive parenting (e.g.

praising, positive affect) and control/critical behaviours (e.g. direct and indirect commands, criticisms) were assessed at baseline, end of intervention and 1 year later. For observation parenting outcomes, effects of ethnicity at baseline indicated that there were significant mean differences in a) harsh/critical treatment (as globally assessed by the CII[23]) with the highest scores for both the Caucasian and the African-American groups, b) positive parenting (event-coded with the DPICS-R) with the Caucasian group scoring the highest, and in c) total critical statements (event-coded with the DPICS-R) for which the African-American group had the highest score. Despite these differences at pre-treatment[24], a main outcome of this study was that intervention effects were not only consistent across all ethnic groups but also in the expected direction[25]. In other words, the authors showed that the IY parenting programme is effective and accepted by culturally diverse populations.

Although in Reid et al's (2001) study both positive and negative dimensions of parenting were assessed, a prevalent feature of experimental studies is the use of observational measures that predominantly focus on deficits in behaviour (e.g. non-compliance in the child, criticism and harsh/disciplinary parenting) rather than on relational and/or attachment-based aspects of parent-child interaction (e.g. responsiveness to one another, mutual involvement, shared positive affectivity) that could potentially show change at post or follow-up stages (Gardner, 1992). This aspect is particularly marked when studying populations of non-clinical at risk dyads of parents and their school-aged children (Conduct Problems Prevention Research Group, 1992; Webster-Stratton et al., 2001).

Also, where observational schemes have been widely used in intervention studies (e.g. the DPICS), these are mostly composed by items that specifically target individual units (events) of parent and child behaviour operationalised in terms of social learning principles of positive and negative reinforcement, as well as contingencies of behaviour (i.e. exerting control over bad behaviour, praising good behaviour, and acknowledging child's compliance to parental directives) (Harris et al., 2003).

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[23] I.e. Coder Impression Inventory.
[24] Differences which, given the high number of comparisons made, should be interpreted with caution as were potentially due to chance (Reid et al., 2001).
[25] The few differences in treatment response according to ethnicity did not exceed the number expected by chance and results indicated that intervention parents and children showed higher levels of positive behaviours and lower levels of negative behaviours than controls.

In the present study, the CARP was developed to measure attachment-related parenting behaviours observable in everyday situations such as play interactions between parents and their school-aged children. As previously explained, in this age-group research on attachment qualities of parenting is scarce. Even more limited, are the number of studies looking at ethnic variation in attachment-related parenting. The vast majority of cross-cultural studies of attachment have focused on infancy (Crittenden & Claussen, 2000) and therefore relied more on the assessment of parental sensitivity and its relation to attachment status in infants following Ainsworth et al (1978) conceptualisations and measurement procedures (i.e. the Strange Situation). Although much of this research has provided cross-cultural evidence on the link between parental sensitivity and security of attachment in infants (Crittenden & Claussen, 2000), some authors continue to raise questions about the validity and generalisability of attachment as a universal concept (Harris et al., 2003). These questions particularly apply to the study of attachment-related qualities of parenting in minority ethnic groups living within a majority cultural group. That is, most cross-cultural attachment studies have focused on a specific group pertaining to a specific country but have not considered ethnic variation within a specific country/region.

In school-aged children, investigation of attachment qualities of their relationship with caregivers has mainly been conducted through the use of representational measures (e.g. doll-play and/or story-stem techniques) (Oppenheim et al., 1997; Thompson & Raikes, 2003). These methods identify the child's narrative about his/her relationships with main attachment figures as indicative of a mental representation of the attachment relationship as secure, insecure and/or disorganised. Research has identified links between patterns of secure/insecure separation-reunion attachment behaviour towards the mother and secure vs. insecure representations of attachment (Bretherton, 2005). Evidence has also been provided on the association between secure vs. insecure representations and main child outcomes such as disruptive behaviour (von Klitzing et al., 2000; Goldwyn et al., 2000). However, this research has predominantly been conducted with low risk samples of White parents and their children (Cassidy & Shaver, 1999). In addition, much of the associations obtained refer to the link between the child's representation of attachment and security ratings derived from observational stress-inducing procedures (e.g. the Q-set) and/or child reported behaviour (Thompson & Raikes, 2003). It is therefore unknown to what extent the association between representation of attachment and parenting/child behaviour as observed in the context of

play interactions at home in a deprived at risk sample of parents and their school-aged children is moderated by ethnicity.

In the present study it was possible to address the above gaps in the research literature because the sampling frame included an at risk community-based UK multi-ethnic sample of parents and their school-aged children. Thus, investigation of attachment-related parenting was conducted using a different methodological approach from that used in traditional studies of attachment, targeting minority groups living within a majority cultural group, and focusing on middle childhood – so far an especially neglected age group for this area of research.

By focusing on older children, this study provides information on ethnic variation in the pattern of associations between observed attachment-related parenting and child adaptive and disruptive behaviour as observed in the context of play tasks at home, and also investigates the association between observed measures of parent and child behaviour and doll-play measures of child attachment representation specific to three different ethnic groups.

In summary, the exploratory questions posed by the present study were whether or not in this particular sample, ethnicity would moderate the association between attachment-related parenting and main child outcomes under investigation (i.e. observation and representation), and the effectiveness of the intervention.

That is, will the pattern of associations between the key variables of the study be similar across all three ethnic groups or will outcomes strongly differ according to each individual ethnic group? Following the intervention, will parent and child behaviour change similarly in all three ethnic groups or will the changes be different according to ethnicity?

6.2.1. Hypotheses

Before any predictions are made, it should be noted that given the general lack of studies focusing on ethnic variation in attachment-related parenting and its association with observed child behaviour and representation of attachment in middle childhood, and the small sample sizes that are used in this study as representative of each ethnic group, the results of any analyses performed should be viewed as exploratory.

Four main sources of evidence previously discussed were used to formulate the specific hypotheses guiding the presentation of ethnicity outcomes in this study: 1) outcomes from research on ethnic variation in parenting styles (e.g. Deater-Deckard et al., 1996; Bernstein et al., 2005) and their association with positive and negative aspects of observed child behaviour such as positive affect and disruptiveness, 2) cross-cultural studies of attachment focusing on parental sensitivity (including dimensions of warmth and dyadic synchrony/reciprocity) and its association with security of attachment in children (Crittenden & Claussen, 2000), 3) research focusing on the links between child representation of attachment with the use of play narrative techniques and child disruptive behaviour (e.g. von Klitzing et al., 2000), and 4) intervention research focusing on the effectiveness of social learning based parenting programmes that target multiple ethnic groups (e.g. Webster-Stratton et al., 2001; Reid et al., 2004).

The following exploratory hypotheses were formulated:

1) Across ethnic groups different patterns of correlations would be obtained for the association between observed attachment-related parenting (Sensitive Responding, Parent Positive Affect, and Mutuality) and main child outcomes (observation and representation). Specifically, attachment-related parenting and child outcome is expected to strongly correlate in the White British group. The strength of this association is expected to be less marked in the West African group.
2) Across ethnic groups different patterns of correlations would be obtained for the association between observed child behaviour and representation of attachment. Specifically, child behaviour and representation of attachment is expected to strongly correlate in the White British group. The strength of this association is expected to be less marked in the West African group.

3) Across ethnic groups differences would be obtained in the extent to which the intervention led to changes in observed attachment-related parenting (Sensitive Responding, Parent Positive Affect, and Mutuality) at follow-up. Specifically, the intervention is expected to lead to overall marked improvement in attachment-related parenting at follow-up in the White British group, whereas less overall improvement will take place in the West African group.

In order to test the hypotheses above, for each individual ethnic group, two sets of associations were investigated: 1) the association between attachment-related parenting (i.e. Sensitive Responding, Parent Positive Affect, and Mutuality) and measures of observed child behaviour as well as attachment representation, and 2) the association between observed child behaviour and attachment representation. These associations were investigated with the use of Pearson's product moment correlations. The analyses of change were conducted following the same strategy as in part A of the results section above. For all outcomes in this section, particular emphasis would be put into finding potential patterns or trends (i.e. are there any systematic/consistent patterns of findings specific to all vs. each ethnic group, or is there a general lack of consistency in results?). In other words, the main focus is to look for robust findings that indicate consistent trends within and/or across ethnic groups, instead of pinpointing isolated findings that are not consistent and therefore lacking robustness.

As mentioned above it should be noted that this section of the study is mainly exploratory in nature. However, it is nevertheless guided by hypotheses that are strongly grounded in theory and prior research on the association between specific qualities of parenting and child behaviour. Thus, main outcomes would be partly interpreted/discussed on a hypothesis-driven basis and partly on a post-hoc basis through review of recent literature on the link between ethnicity and parenting practices (see chapter 7 below).

6.2.2. Main sampling and analysis considerations

In part A of the results, all analyses at baseline (time 1) were conducted using the entire sample of 86 parent-child pairs. In this section focused on ethnicity, analyses were conducted only on the three main ethnic groups[26] of the sample: West African, White British, and Black Afro-Caribbean. A fourth group of parent-child pairs pertaining to "Other ethnicity" backgrounds was excluded from analyses. This group was not only extremely small in size (n = 5) but was also very heterogeneous in ethnic terms including two pairs from Mediterranean backgrounds, two pairs of Mixed origin, and one South East Asian pair. In addition, five other pairs were excluded as their ethnicity was not reported.

Sample sizes of each group were 43 parent-child pairs from West African origin, 17 pairs of White-British background and 16 Black Afro-Caribbean pairs. These small sample sizes, and in particular the samples concerning both the White British and the Black Afro-Caribbean groups posed concerns in terms of the extent to which they may be underpowered to detect significant findings as well as the appropriateness of using parametric tests with such small numbers of participants. Although the statistics literature hasn't provided a clear answer to the issue of sample size requirements when determining what type of tests to use, a known strategy is to consider the extent to which the distribution of the dependent variable(s) of interest approaches normality (Pett, 1997). According to Wampold and Drew (1990) if the distribution is close to normality, even small to moderate sample sizes of 5 to 10 participants could be considered as presenting a "normal" sampling distribution of the mean, and therefore meeting the requirements for the use of parametric statistics. In this particular study, when looking at each ethnic group individually, the variables used in analyses were checked for normality through examination of their skew and kurtosis. In each ethnic group, all variables presented normality of distribution (see Appendices R1-R3).

Finally, because of the small samples, analyses testing significant differences between correlations (e.g. using Fisher's r to z transformation) are not reported as the power is quite low. Instead, the correlation is to be interpreted as an effect size. It remains for further study to test the group differences obtained here.

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[26] Ethnicity as reported by the parent that participated in the observational tasks.

6.2.3. Results

In terms of the structure chosen to present ethnicity findings, outcomes were presented according to two main sub-sections: 1) correspondence between parent and child outcomes according to assessment method (observation and doll-play), and 2) intervention effects (intention to treat).

The conventional values of $p<.05$ and $p<.01$ were used to indicate findings that achieved statistical significance. However, statistical significance should be interpreted with some caution. This is mainly due to the fact that 1) the sample sizes of each ethnic group were not only small but also unequal for comparisons to be made and b) the aims of this investigation being relatively novel in nature. Under these circumstances, reporting outcomes corrected for multi-testing through Bonferroni adjustment constitutes a common strategy to reduce the likelihood of obtaining findings by "chance" or making a Type I error (Feise, 2002; Bland & Altman, 1995). However, because Bonferroni adjustments are highly conservative, they may mask the existence of real significant associations in the data, thus running the risk of committing Type II errors (i.e. falsely rejecting the null-hypothesis) (Reid et al., 2001). Thus, to avoid the stringency of the Bonferroni method, and bearing in mind the hypotheses guiding the study, all outcomes statistically significant at the $p<.05$ and $p<.01$ levels were reported and further discussed. In addition, findings were reported in terms of effect sizes[27] as unique reliance on p values would be unsatisfactory given such small sample sizes (Cohen, 2003).

6.2.3.1. Correspondence between observed attachment-related parenting and main child outcomes (observation and representation) per ethnic group

In Tables 33a-33c below findings for the association between Sensitive Responding (SR), Parent Positive Affect (PPA) and Mutuality (M) and main child outcomes (observation and representation) for each ethnic group are presented.

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[27] For correlations, the effect size corresponds to the Correlation Coefficient itself (Dancey & Reidy, 2002). For the definition of effect sizes in analyses of change from pre to follow-up stages see section 6.1.6.8. above.

Table 33a – Zero-order correlations between observed Sensitive Responding and main child outcomes (observation and representation) per ethnic group

	West African (n=43)	**White British** (n=17)	**Black Afro-Caribbean** (n=16)
	Sensitive Responding	Sensitive Responding	Sensitive Responding
Child Attention on Task	0.22	0.58*	-0.18
Child Positive Affect	0.37*	0.35	0.54*
Child Social Responsiveness	0.33*	0.37	0.77***
Child Negative Behaviour	-0.13	0.03	0.17
Coherence	0.18	0.21	0.57*
Disorganisation	-0.17	-0.58*	-0.50
Insecurity	-0.11	-0.59*	-0.60*

*p<.05;***significant after Bonferroni correction (p≤.004)

As shown in Table 33a above, in the White British group overall effect sizes ranged from .21 to .59. Significant correlations were also obtained with SR positively correlating with CAT (r = .58, p<.05) and negatively correlating with representation of attachment disorganisation (r = -.58, p<.05) and insecurity (r = -. 59, p<.05).

In the Black Afro-Caribbean group overall effect sizes ranged from .17 to .77. Significant correlations were also obtained with SR positively correlating with CPA (r = .54, p<.05), CSR (r = .77, p<.01), and coherent representation of attachment (r = .57, p<.05), and negatively correlating with representation of attachment insecurity (r = -.60, p<.05).

In the West African group overall effect sizes ranged from .11 to .37. Significant correlations were also obtained with SR positively correlating with CPA (r = .37, p<.05) and CSR (r = .33, p<.05).

Thus, overall results suggest that a strong pattern of correlations between SR and both types of child outcome (observation and representation) was obtained in the White British and the Black Afro-Caribbean groups, whereas in the West African group the pattern of correlations obtained was not as strong.

Table 33b – Zero-order correlations between observed Parent Positive Affect and main child outcomes (observation and representation) per ethnic group

	West African (n=43)	**White British** (n=17)	**Black Afro-Caribbean** (n=16)
	Parent Positive Affect	Parent Positive Affect	Parent Positive Affect
Child Attention on Task	-0.02	0.51*	0.04
Child Positive Affect	0.71***	0.62**	0.55*
Child Social Responsiveness	0.39*	0.42	0.88***
Child Negative Behaviour	-0.15	-0.41	0.07
Coherence	0.24	0.18	0.53*
Disorganisation	-0.14	-0.45	-0.58*
Insecurity	-0.18	-0.30	-0.69**

*p<.05;**p<.01;***significant after Bonferroni correction (p≤.004)

As shown in Table 33b above, in the White British group overall effect sizes ranged from .30 to .62. Significant correlations were also obtained with PPA positively correlating with CAT (r = .51, p<.05) and CPA (r = .62, p<.01).

In the Black Afro-Caribbean group effect sizes ranged from .53 to .88. Significant correlations were also obtained with PPA positively correlating with CPA (r = .55, p<.05), CSR (r = .88, p<.01), and coherent representation of attachment (r = .53, p<.05), and negatively correlating with representation of attachment disorganisation (r = .58, p<.05) and insecurity (r = -.69, p<.01).

In the West African group overall effect sizes ranged from .14 to .39. Significant correlations were also obtained with PPA positively correlating with CPA (r = .71, p<.01) and CSR (r = .39, p<.05).

Thus, overall results suggest that a strong pattern of correlations between PPA and both types of child outcome (observation and representation) was obtained in the White British and the Black Afro-Caribbean groups, whereas in the West African group the pattern of correlations obtained was not as strong.

Table 33c – Zero-order correlations between observed parent-child Mutuality and main child outcomes (observation and representation) per ethnic group

	West African (n=43)	**White British** (n=17)	**Black Afro-Caribbean** (n=16)
	Mutuality	Mutuality	Mutuality
Child Attention on Task	0.14	0.55*	0.03
Child Positive Affect	0.53***	0.47	0.51*
Child Social Responsiveness	0.54***	0.68***	0.87***
Child Negative Behaviour	-0.26	-0.32	-0.11
Coherence	0.10	-0.04	0.41
Disorganisation	-0.22	-0.44	-0.28
Insecurity	-0.16	-0.31	-0.48

*p<.05;***significant after Bonferroni correction (p≤.004)

As shown in Table 33c above, in the White British group overall effect sizes ranged from .31 to .68. Significant correlations were also obtained with M positively correlating with CAT (r = .55, p<.05) and with CSR (r = .68, p<.01).

In the Black Afro-Caribbean group overall effect sizes ranged from .28 to .87. Significant correlations were also obtained with M positively correlating with CPA (r = .51, p<.05), and with CSR (r = .87, p<.01).

In the West African group overall effect sizes ranged from .10 to .54. Significant correlations were also obtained with M positively correlating with CPA (r = .53, p<.01) and with CSR (r = .54, p<.01).

Thus, overall results suggest that a strong pattern of correlations between M and both types of child outcome (observation and representation) was obtained in the White British and the Black Afro-Caribbean groups, whereas in the West African group the pattern of correlations obtained was not as strong.

6.2.3.2. Correspondence between observed child behaviour and doll-play attachment representation per ethnic group

In Tables 34a-34c below findings for the association between observed child behaviour and doll-play attachment representation for each ethnic group are presented.

Table 34a – Zero-order correlations between observed child behaviour and coherent attachment representation per ethnic group

	West African (n=43)	**White British** (n=17)	**Black Afro-Caribbean** (n=16)
	Coherence	Coherence	Coherence
Child Attention on Task	0.26	0.25	0.07
Child Positive Affect	0.21	0.14	0.17
Child Social Responsiveness	0.40*	0.12	0.54*
Child Negative Behaviour	-0.30	0.16	0.05

*p<.05; (all p values non-significant after Bonferroni correction)

As shown in Table 34a above, in the West African group overall effect sizes ranged from .21 to .40. Significant correlations were also obtained with coherence positively correlating with CSR (r = .40, p<.05).

In the Black Afro-Caribbean group overall effect sizes ranged from .05 to .17. Significant correlations were also obtained with coherence positively correlating with CSR (r = .54, p<.05).

In the White British group overall effect sizes ranged from .12 to .25. In this group there were no significant correlations between coherence and observed child behaviour.

Thus, overall results suggest that a strong pattern of correlations between coherent representation of attachment and observed child behaviour was obtained in the West African Group, whereas in the White British and the Black Afro-Caribbean groups the pattern of correlations obtained was not as strong.

Table 34b – Zero-order correlations between observed child behaviour and disorganised attachment representation per ethnic group

	West African (n=43)	**White British** (n=17)	**Black Afro-Caribbean** (n=16)
	Disorganisation	Disorganisation	Disorganisation
Child Attention on Task	-0.07	-0.47	-0.07
Child Positive Affect	-0.05	-0.28	-0.06
Child Social Responsiveness	-0.28	-0.33	-0.49
Child Negative Behaviour	0.44**	0.21	-0.05

**p<.01; (all p values non-significant after Bonferroni correction)

As shown in Table 34b above, in the White British group child behaviour and representation of attachment associated as expected with correlations (although non-significant) ranging from .21 to .47.

In both the West African and the Black Afro-Caribbean groups overall effect sizes (although non-significant) were of lower magnitude.

In the West African group a positive correlation of .44 ($p<.01$) was obtained between disorganisation and observed child negative behaviour.

Thus, overall results suggest that a strong pattern of correlations between representation of attachment disorganisation and observed child behaviour was obtained in the White British group, whereas in the West African and the Black Afro-Caribbean groups, the pattern of correlations obtained was not as strong.

Table 34c – Zero-order correlations between observed child behaviour and insecure attachment representation per ethnic group

	West African (n=43)	**White British** (n=17)	**Black Afro-Caribbean** (n=16)
	Insecurity	Insecurity	Insecurity
Child Attention on Task	-0.06	-0.49	-0.24
Child Positive Affect	-0.10	-0.28	-0.08
Child Social Responsiveness	-0.20	-0.15	-0.64*
Child Negative Behaviour	0.54***	0.04	0.15

*p<.05;***significant after Bonferroni correction ($p\leq0.004$)

As shown in Table 34c above, in both the White British and the Black Afro-Caribbean groups child behaviour and representation of attachment associated as expected with correlations (although non-significant) ranging from .15 to .64.

In the Black Afro-Caribbean group a significant correlation was also obtained between insecurity and CSR ($r = -.64$, $p<.05$).

In the West African group overall effect sizes (although non-significant) were of lower magnitude. In this group a positive correlation of .44 ($p<.01$) was obtained between insecurity and observed child negative behaviour.

Thus, overall results suggest that a strong pattern of correlations between representation of attachment insecurity and observed child behaviour was obtained in the White British and the Black Afro-Caribbean groups, whereas in the West African group the pattern of correlations obtained was not as strong.

6.2.3.3. Intervention effect on observed attachment-related parenting per ethnic group (intention to treat)

For all assigned cases, changes in attachment-related parenting at follow-up for all three ethnic groups are presented in Table 35 below.

Table 35 – Change in attachment-related parenting: Effect sizes per ethnic group (intention to treat analysis)

	Intention to Treat **West African** (N = 40) Intervention = 20 Control = 20	Intention to Treat **White British** (N = 16) Intervention = 9 Control = 7	Intention to Treat **Black Afro-Caribbean** (N = 14) Intervention = 6 Control = 8
	Effect Size (Regression[28])	**Effect Size** (Regression)	**Effect Size** (Regression)
Sensitive Responding	.35	.35	.80
Parent Positive Affect	.20	-.42	.24
Parent Child Mutuality	.40	.38	.53

As shown in Table 35, in all ethnic groups follow-up change in attachment-related parenting for all assigned cases was non-significant. However, effect sizes indicated that there was increase in Sensitive Responding and in Mutuality in all groups. Thus, the effect (although non-significant) of the intervention was to moderately improve Mutuality across ethnic groups, whereas improvement in Sensitive Responding was moderate (d =.35) in both the West African and the White British groups but large (d = .80) in the Black Afro-Caribbean group.

Improvement in Parent Positive Affect was small for both the West African (d =. 20) and the Black African groups (d = .24), whereas in the White British group levels of Parent Positive Affect moderately decreased (d = -.42) following the intervention.

[28] In multiple regression analysis, the effect size is calculated by dividing the unstandardised beta value for the group condition (as an independent predictor after parent/child behaviour pre-treatment scores) by the pooled standard deviation at pre-treatment.

CHAPTER 7. Discussion

The CARP was developed to measure attachment-related parenting observed in the context of play tasks at home in at risk families of school-aged children, to whom a social learning based parenting programme was offered. This study also involved the development and refinement of observational measures of social learning based parenting (PBCS) and child behaviour (CGCS) for comparison with the CARP scheme. The main aims of the study were: (1) to establish the reliability, stability, and the factorial structure of the observation measures, as well as their convergent, divergent, and discriminant validity, (2) to examine the extent to which attachment-related parenting associates with social learning based conceptualisations of parenting, observed and reported child behaviour, and doll-play measures of attachment representation, and (3) to test the persisting effects of a social learning based parenting intervention in changing attachment-related and social learning based parenting as well as child behaviour. Secondary aims included investigation of (a) variation in observed parenting practices due to social and economic characteristics of the sample, and (b) change in parent and child outcomes as predicted by demographic factors. Finally, an exploratory analysis was also conducted to examine whether ethnicity moderated the association between attachment-related parenting and main child outcomes (observation and attachment representation), and the effects of the intervention.

The discussion is organised according to these aims.

7.1. Reliability and validity findings

7.1.1. Inter-rater reliability

The CARP, the PBCS, and the parent and child global codes presented overall good levels of reliability, with intra-class correlation values ranging from acceptable to high (ICC = .70 or above). Therefore, these measures can be reliably used in research, clearly communicated to those involved in training, and can produce consistent data.

The overall good levels of reliability also indicate that the operational definitions were clear and, especially in the case of the global codes, sufficiently objective. Therefore, measures such as the CARP, where some degree of interpretation is expected when

coding dimensions of behaviour that are conceptually similar and not directly quantifiable (e.g. differentiating displays of warmth from positive affect), have been adequately and clearly operationalised in this study, and produced reliable and consistent data. However, the finding that the overall levels of inter-rater reliability for the CARP were somewhat lower than several of the PBCS codes indicates that the latter may be capturing parenting behaviours that require less interpretation on the part of the coders and are more reliably observed. This may particularly apply to those codes referring to disciplinary/control parenting behaviours (i.e. commands), which are easily identifiable during coding. This interpretation is also in line with previous studies reporting lower inter-rater reliability for more interpretative parenting domains such as unresponsiveness and warmth compared to more objective parenting behaviours such as negative disciplinary control and physical punishment (Shaw, Owens, Giovanelli, & Winslow, 2001; Brophy & Dunn, 2002).

Overall lower levels of reliability for the CARP in relation to the PBCS can also be interpreted in terms of the lower reliability coefficients that are often obtained for global measures that tap different aspects of the target phenomenon (e.g. the construct of Sensitive Responding) compared to a single measure or agent (e.g. clear commands) (Webster-Stratton et al., 2001).

On the other hand, it is important to consider if the reliability of the CARP is significantly and/or consistently lower than that found for a behavioural count-based measure. In this context, it is noteworthy that the median reliability for the CARP was .77 and for the PBCS it was .75. Furthermore, the ranges were .73-.81 for the CARP and .19-.98 for the PBCS. This implies that it is certainly possible to attain high reliability on more subjective coding schemes, and it may therefore be premature to make sweeping generalisations about one type of coding scheme over another. And, clearly, the real test of a coding scheme is not reliability but validity (e.g. because very reliable systems may be unable to predict outcomes).

Where categories presented acceptable rather than high levels of reliability it can be argued that inconsistencies between observers in the operationalisation/rating of those particular behaviours were not adequately addressed during training. Improvement of reliability may therefore have been achieved through extending the training period. The time constraints in this (and any) project however mean that it is not desirable to have

very lengthy training periods. To counterbalance this time limitation as well as the potential effect of using codes that are not highly reliable, random reliability checks were conducted during the training period in order to reduce observer drift as well as making sure that refinement of operational criteria and coding parameters was conducted and adhered to.

Reaching acceptable rather than overall high inter-observer agreement was deemed satisfactory for this study. As discussed by Webster-Stratton et al (2001) in experimental research lower reliability levels are satisfactory as long as the constructs measured are theoretically compelling and important.

7.1.2. Stability

Assessment of stability of parent and child observational codes from pre-treatment to follow-up stages in both the intervention and control groups was conducted with the use of three different calculation methods: Regression, ICC, and Pearson's Product Moment Correlation. This tested the robustness of stability outcomes across calculation method and according to treatment condition. Only when running ICC's for each parent and child observational code in the control group alone did all time 1 to time 3 correlation coefficients reach high significance with values ranging from .40 to .71. In contrast, when using correlation for this group, or when using different methods of calculation with both the intervention and control groups (controlling for condition in the case of Regression) coefficients, although highly significant were at times lower (e.g. Criticism, ICC = .36, $p<.01$) or did not even reach significance (e.g. Beta Commands, $r = .20$). The difference in outcomes may be a result of a more powerful estimate being obtained through ICC rather than correlations, as this calculation method controls for systematic errors (Miaofen & Li-Hua, 2002). This last point may also explain why, when comparing ICC and Pearson correlations for each (same) parent/child measure, ICC's tended to be somewhat lower than the correlation value.

Another critical factor in the assessment of stability is the amount of time allowed between measurements. Higher correlations are expected when the time gap between assessments is shorter. In contrast, longer time intervals between assessments reduce the extent to which measurements are related, as variability in factors that contribute to error is also expected to increase. Therefore, depending on the time interval used,

considerably different stability estimates can be obtained (Trochim, 2000). In this study, one year between assessments was the amount of time implicated in the assessment of stability. This is a rather long period of time in which many sources of error (e.g. maturation, changes in parent behaviour due to life events, etc) may have affected the stability of parent/child behaviour – and it is certainly too long to consider it an index of test-retest reliability. However, and particularly when taking into consideration the potential sources of error here specified – calculation method and time interval – overall correlation values (i.e. ICC, beta or Pearson's r) indicated overall good stability of the direct observation parent and child measures used in this study. Therefore, the new measure of attachment-related parenting developed in this study – the CARP – has been proven to produce consistent data throughout a relatively long period of time.

7.1.3. Factorial Validity

7.1.3.1. Factor structure of the Coding of Attachment-Related Parenting (CARP)

The first factor "Parent Positive" combined Sensitive Responding (SR), Parent Positive Affect (PPA), and Mutuality (M), suggesting that these measures represent the same underlying construct. Several other studies have reported similar findings with measures of responsiveness, cooperation, involvement, attunement, emotional openness and empathy positively loading on factors referring to constructs of sensitivity or synchrony (Rothbaum & Weisz, 1994; Kelly & Barnard, 2000; Ispa et al., 2004). Each dimension that loaded on this factor refers to key aspects of parent-child relationship quality mostly emphasised by both attachment and socialisation research (Cassidy & Shaver, 1999; Maccoby & Martin, 1983). Patterns of sensitive care, displays of positive affect and the establishment of mutual, synchronous interactions are constitutive elements of authoritative parenting styles, found to promote optimal child outcomes including attachment security and behavioural adjustment (Karavasilis et al., 2003; Baumrind, 1971; Maccoby, 1980). Given their level of interdependence, these dimensions have often been combined into a single measure (Dowdney, 1987; Kelly & Barnard, 2000). However, individual measures of SR, PPA an M have also been found to be reliable and valid (Kelly & Barnard, 2000; Deater-Deckard & Petrill, 2004; Weinfield et al., 2002). Furthermore, individual measurement of each dimension not only prevents these aspects of parenting from losing specificity but also allows for the investigation of their unique contributions to differential child outcomes (Goldberg et al., 1999a; Davidou & Grusec, 2006). In attachment research, these constructs have shown evidence of relative

independence with SR playing a primary role in promoting security, whereas positive affect and mutuality constitute factors mainly involved in affect regulation processes and patterns of contingent responsiveness (Belsky, 1999; Magai, 1999; Isabella & Belsky, 1991). These considerations suggest that there is relative specificity and differentiation between these constructs. This differentiated approach is in contrast with the global approach often adopted by socialisation studies where aspects of sensitivity, warmth, and synchrony have typically been grouped together (Davidou & Grusec, 2006). Implicit to these approaches to parenting is the lack of a strong or prevailing standard regarding the use of composites or individual measures. A main aim of this study was to investigate the unique contributions of Sensitive Responding, Parent Positive Affect, and Mutuality to varied child outcomes, ranging from observed conduct problems to attachment representation. Therefore it was decided to keep SR, PPA and M as individual measures of attachment-related parenting for use in this study.

The second factor "Parent Negative" combined Parent Intrusiveness and Parent Negative Affect, suggesting that a conceptually coherent operationalisation of the construct of negative parenting would include parental intrusiveness as well as negative mood. These two dimensions have been implicated in coercive cycles of interaction (Patterson, 1982; Patterson et al., 1992). These cycles are usually initiated when there is an excess of parental directive behaviour towards the child (i.e. intrusiveness), which then leads to increased opposition/resistance in return. Consequently, this results in growing aggravation and a sense of frustration in the parent (i.e. negative mood) for not having his/her requests complied with, as well as having to deal with the difficult child. Equally, intrusiveness and negative affectivity characterise parenting styles that are also insensitive, low in warmth and positive involvement (Karavasilis et al., 2003; Dowdney et al., 1984; Maccoby & Martin, 1983). Studies have also differentiated between intrusiveness that is affectively neutral or positive from that which is affectively negative (Martinez, 1988; Carlson & Harwood, 2003), with negative controlling behaviour associating more strongly with a range of maladaptive outcomes including low mother-child mutuality, high negative affect, and behaviour problems (Pettit, Harrist, Bates, & Dodge, 1991; Egeland, Pianta, & O'Brien, 1993; Park, Belsky, Putnam, & Crnic, 1997). In this study, parental intrusiveness and negative affect were combined into a single global measure of Parent Negative Behaviour.

7.1.3.2. Factor structure of the Parent Behaviour Coding Scheme (PBCS)

The first factor "Child Centred" combined child-centred verbalisations and questions. Child-centred verbalisations refer to utterances that positively attend to the child, whether in the form of praises, describing his/her activities (neutral attend), or acknowledging his/her actions (positive attend). In contrast, questions refer to interrogative behaviour, thus intrusive rather than child-centred (Webster-Stratton & Herbert, 1996; Webster-Stratton & Hancock, 1998). In intervention research independent measures of attending statements and parental questions have been used reliably and operationalisations used are similar to those of the present study. For example, in evaluating the impact of a parenting programme targeting an at risk normative (non-referred) sample of pre-schoolers and their mothers, Kotler and McMahon (2004) used measures of the total number of attending statements and parental questions prior to and at the end of the intervention. The attending code, which included verbal descriptions of the child's activities, as well as praising, defined a construct of positive parenting, whereas questions were part of an intrusiveness dimension. A theoretically driven measure of child-centred behaviour should therefore exclude questions and instead focus exclusively on child-attending verbalisations as described above. In this study, a single measure of Parental Attending was created integrating codes of Praise, Neutral Attends, and Positive Attends. Including a measure of child-centred parenting was relevant as this captures behaviours targeted for change by the parenting programme that was administered to parents allocated to the intervention group.

The factor of "Firm Commands" combined commands and criticism. However, directives and critical remarks toward the child are conceptually distinct. In developmental and intervention studies operationalisations of both aspects of parent behaviour are clearly differentiated and are similar to those provided in the current study. Criticisms refer to parental statements that convey negativity or disapproval of the child's current, past, or future behaviour. In contrast, commands are defined as instructions or requests for the child to perform a certain task or behaviour (Webster-Stratton et al., 2001; Kotler & MacMahon, 2004; Brinkmeyer & Eyberg, 2003). Parenting styles high on directiveness and criticism are often associated with child problem behaviour (Reid et al., 2004, Gardner, 1992). Thus, a common goal of

interventions is to obtain a reduction in both the number of directives and criticisms after treatment (Webster-Stratton & Hammond, 1997; Kazdin, 2005).

In this study, although its frequency was low, Criticism was found to be reliable (ICC = .76) and its inclusion as a main outcome was conceptually meaningful as it taps parental harsh/critical verbalisations targeted for change by the parenting programme. Equally important was the inclusion of a measure of parental directive behaviour as this was also targeted for change. The high loadings here obtained from Alpha and Chain Commands, and Prohibitions suggest that these represent a category of firm, direct and clear directives, irrespective of whether these are issued one at a time or in a sequence. However, there has been a clear differentiation in the literature between commands that provide opportunities for compliance and commands issued in a chain (Forehand & McMahon, 1981). Furthermore, differential outcomes in children have been reported depending on whether commands are issued repeatedly or not, with chain commands often associating with increased conduct problems (Rothbaum & Weisz, 1994; Brinkmeyer & Eyberg, 2003). In this study, training parents to replace chain commands with clear commands issued one at a time constituted a core feature of the intervention. Thus, "Chain commands" and "Clear Commands" (i.e. Alpha and Prohibitions combined) were included in the study as two individual measures of directive parenting behaviour.

The third factor "Vague Commands" combined Beta Commands and Facilitations. This was an unexpected finding as these codes refer to two conceptually different measures. Beta directives were operationalised as referring to those parental requests which are vague and ambiguous in their meaning, not providing the child with a clear understanding of what behaviour is expected of them. This operationalisation is in line with reports from other studies (Webster-Stratton, 2002; Brinkmeyer & Eyberg, 2003). Facilitations on the other hand, refer to child-centred verbalisations that suggest rather than direct the child, helping him/her to move the play along. This category has been used to capture aspects of positive and/or friendly communicative style in parent-child interaction (Gardner, 1987; Hembree-Kigin & McNeil, 1995). Comparative to clear directive behaviour, vague (beta) commands have been shown to associate with increased conduct problems in children (Green, Forehand, & McMahon, 1979; Forehand & McMahon, 1981). This particular aspect of ambiguous poor limit setting has often been targeted for change by interventions (Scott, 2002; Vuchinich et al., 1992;

Webster-Stratton & Hancock, 1998). Equally, parents in this study were trained in the adoption of a clear and consistent approach to discipline, thus reducing their reliance on ambiguous commands. The decision was made to keep an individual measure of vague commands distinct from clear directive behaviour.

7.1.3.3. Factor structure of the Child Global Coding Scheme (CGCS)

The first factor of "Child Positive" combined codes focusing on levels of the child's enjoyment and positive mood, ability to socially interact in a responsive way, and to be perceived as displaying overall pro-social behaviour. These are interrelated aspects of adaptive social, emotional, and behavioural adjustment (Durkin, 1995). Children exhibiting increased positive affectivity are often shown to respond to their parents in an emotionally available way, facilitating the dyad's optimal involvement (Biringen, 2000; Eisenberg et al., 2001a). These qualities are promoted by sensitive, warm, and supportive parenting styles as well as disciplinary practices that reinforce pro-social behaviour through reasoning and rewards (Dix, 1991; Eysenberg, Gershoff, Fabes, Shepard, Cumberland, Losoya, Guthrie, & Murphy, 2001b). Although there is considerable overlap between these dimensions of child adaptive behaviour, some differentiation has also been provided. For example, child positive affect has been an outcome usually investigated in intervention studies and with populations of approximately the same age group as that of the present study (Webster-Stratton & Herbert, 1996; Hembree-Kigin & McNeil, 1995). In contrast, child social responsiveness is less commonly studied in the context of interventions, and its use has been almost exclusive to infancy/pre-school years (Sroufe et al., 1983; Shulman et al., 1999). Furthermore, comparative to child problem behaviour, dimensions of socio-emotional competence and pro-social behaviour in children have not been subjected to consistent investigation by intervention research (Izard, 2004). In this study, two individual measures of child positive affect and social responsiveness were included and used to evaluate treatment success.

The second factor of "Child Negative" combined negative affect, non-compliance, and antisocial behaviour. This is theoretically coherent and is in agreement with other studies (Rothbaum & Weisz, 1994). Although somewhat independent from one another, these dimensions often coexist as an overall indicator of the child's difficult/disruptive behaviour (Reid et al., 2001; Gardner, 1992). In short, disruptiveness in the child has

often been described as containing elements of negative mood, resistance or refusal to comply with parental requests, and several other manifestations of difficult styles of interaction such as using smart talk, whining, complaining, demanding, yelling, and arguing (Forehand & McMahon, 1981; Dowdney et al., 1985; Webster-Stratton, 2002). Intervention studies have also used operationalisations of child negative behaviour similar to that used in this investigation in order to measure difficult/disruptive behaviour in children of approximately the same age group as that of the present study (Webster-Stratton et al., 2001; Vuchinich et al., 1992; Patterson, 1986). A composite measure of "Child Negative Behaviour" integrating negative affect, non-compliance, and antisocial behaviour was therefore included in this study.

The individual dimension of "Child Attention" suggests that this is an independent construct from all other child behavioural measures. In this particular study, this dimension refers to the child's ability to keep his/her attention on the task at hand, without switching back and forth from one activity to the other. This operationalisation is in accordance with definitions provided in other studies (NICHD, 2005; Olson, Bates, Sandy & Schilling, 2002). Low scores on this dimension indicate that the child is restless, fidgety and unable to focus/concentrate. These are defining features of Attention Deficit/Hyperactivity Disorder (ADHD) (Hill, 2002; Taylor et al., 1986). Studies have consistently reported an association between attention difficulties and disruptive behaviour (Taylor et al., 1991; Pratt, Cullen, Blevins, Daigle, & Unnever, 2002). In most of this research however, observational assessment of attention has not been conducted (Whaler & Henker, 1999; Morrell & Murray, 2003). Consequently, studies examining improvement in levels of observed school-age child attention following a parenting programme are not as profuse (Hartman et al., 2003). Additionally, parenting research in the area of attention problems has predominantly focused on disciplinary styles, thus overlooking the role of attachment-related qualities as potentially influencing this child outcome (Woodward, Taylor & Dowdney, 1998; Fearon & Belsky, 2004). In light of these considerations, an individual measure of child attention on task was kept as a main outcome of this study.

7.1.4. Validity

7.1.4.1. Convergent and divergent validity of observation parenting measures

To assess the validity of the CARP, a validated report measure of parenting quality (Quinton et al., 1976) was selected, as it potentially acts as criterion referent to specific aspects of the attachment-based constructs the CARP aims to measure (Haynes, 2003). Because there are no straightforward criterion referents on this area, the validation strategy here employed consisted of seeking to test results on the CARP against likely associations with known instruments in the parenting field (Mrazek, Mrazek, & Klinnert, 1995). In this initial validation exercise, correlations with the parenting interview provided evidence for the convergent validity of the CARP. Observed attachment-related parenting was significantly correlated with interview ratings assessing theoretically relevant constructs of warm, sensitive and involved parenting. The pattern of correlations revealed that there was agreement between global ratings of observed sensitive responding, positive affect, and mutuality and independent interview ratings of parental sensitivity and parent-child communicative style. Thus, parents who expressed higher emphasis on maintaining overall good quality of parent-child communication, awareness of and responsiveness to the child's needs, and promotion of the child's sense of competence were also observed to interact with their children in a more responsive, affectionate and reciprocal manner. Validity data were particularly strong for the observation Sensitive Responding code. This dimension was uniquely associated with all interview ratings of warm/positive parenting including frequency of praises to child, and feelings of love/affection expressed towards the child. Thus, parents scoring higher on observed sensitivity also reported praising their children more often, showing affection, and taking pleasure from being in their child's company. These findings suggest that the CARP captures dimensions consistent with a school-age operationalisation of attachment-related parenting where behavioural indicators of sensitivity include praising and encouragement, promotion of autonomy, readiness to engage in the sharing of ideas, feelings and thoughts, and providing help and nurturance to the child's needs when and if required to do so (Greenberg & Speltz, 1988; Thompson & Raikes, 2003). These are behavioural manifestations of a child-centred attitude central to the establishment of a "goal-corrected-partnership" in which ease of communication is a hallmark of sensitive responding in older children (Speltz, 1990; Greenberg & Speltz, 1988). In short, these findings lend support to the view that, in later stages of development, the sensitivity construct is qualitatively more complex,

combining not only more global dimensions of warmth and responsiveness, but also specific aspects of clear and positive communication (e.g. frequency in which pro-social behaviour is verbally rewarded) (Teti & Huang, 2005; Thompson & Raikes, 2003).

The CARP's convergent validity findings were particularly meaningful, as different methods and informants were used to compare parenting outcomes. Thus, correlations obtained were not attributable to shared-method variance (Patterson, 1982). On the other hand, the use of a between-method approach to validity assessment meant that significant substantial agreement between report and observation measures was more difficult to achieve (Dowdney et al., 1984; Dishion et al., 1996). This was particularly evidenced by the findings concerning the divergent validity of the CARP. These findings, although mostly non-significant, indicated that there was a consistent pattern of negative correlations (modest in size) between attachment-related parenting and reported negative/harsh parenting. This suggests a tendency for parents who expressed increased use of criticism, physical punishments (i.e. smacking), aggressiveness and negative affect in their approaches to discipline (e.g. angry commands), to score lower on attachment-related observational measures. This is consistent with research indicating the independence between competent/sensitive parenting and authoritarian parenting styles marked by hostility and coercive control (Denham, Workman, Cole, Weissbrod, Kendziora, & Zahn-Waxler, 2000; Zahn-Waxler et al., 1990; Kochanska, Kuczynski, & Radke-Yarrow, 1989; Gardner, 1987). Although the theoretical coherence of these findings lends some support for the divergent validity for the CARP, this is a tentative interpretation given that results did not reach statistical significance.

Between-method variance could not only have accounted for lack of significant and substantial agreement between report and observation measures concerning the validity findings for the CARP but also for the PBCS. Overall, the validity findings for this measure were weaker when compared to those of the CARP. This can be attributable to several sources of error. First, social-desirability factors may explain the poorer outcomes concerning critical or disciplinary aspects of parenting. Little or no agreement between informants is more likely to occur in relation to parenting practices perceived as less socially acceptable such as acting in a punitive and aggressive/abusive way with children. Conversely, parents are more likely to report positive dimensions of behaviour (Mrazek et al., 1995; Arney, 2004; Sessa, Avenevoli, Steinberg, & Morris, 2001). A second factor concerns the level of convergence vs. divergence in the operationalisation

of constructs by different assessment methods (Kazdin, 2003; Fiske, 1987). In this study, interview and observation tapped similar dimensions of positive/sensitive parenting whereas the observational measure of disciplinary parenting (i.e. PBCS) tapped behaviours that do not necessarily equate to those dimensions of negative/harsh parenting assessed by the PACS interview. Whereas the interview items refer to more extreme manifestations of harsh parenting such as shouting and hitting, the observational measure targets specific types of directives issued to the child. A third factor refers to the context-specificity of the observations conducted (Gardner, 1997; Dowdney et al., 1984; Lindhal, 2001). It is possible that due to the experience of play, more sensitive parenting was elicited and displayed in a manner that more closely corresponds to the reported descriptions of positive parenting assessed through interview. In contrast, as mentioned above items concerning negative parenting indexed more extreme manifestations of harsh/punitive styles less likely to be elicited and/or displayed during play. Potential reactivity effects to the observational procedures could have also influenced outcomes (Kavanagh, Youngblade, Reid, & Fagot, 1988; Dowdney, 1987; Kazdin, 2003). In this study, it can be argued that parents who might normally use more harsh/punitive disciplinary techniques on a daily basis (and reported this to be so) may have nevertheless withdrawn from displaying such practices in the presence of an independent observer.

In light of the considerations above, it would be wrong to conclude that the observational measure of disciplinary parenting (i.e. PBCS) is not valid. Comparing measures of a construct using different methods constitutes a more stringent test of convergent validity, potentially accounting for the overall non-significant and low correlations obtained (Bates & Novosad, 2005; Kazdin, 2003). Furthermore, given that the PBCS targets behaviours drawn from existing research on the correlational/causal association between specific disciplinary parenting practices and problem behaviour in children, evidence for its face validity is strong (Patterson, 1982; 1986; Gardner, 1992; Forehand & McMahon, 1981; Webster-Stratton, 2002). Additionally, unlike observations, report measures of disciplinary events are potentially flawed, not providing accurate data on complex and fast moving action-reaction patterns (i.e. contingency sequences) (Patterson et al., 1992; Reid, Kavanagh, & Baldwin, 1987; Irvine, Biglan, Smolkowski, & Ary, 1999).

7.1.4.2. Convergent and divergent validity of observation child measures

Consistent and strong evidence of convergent and divergent validity was obtained for observation codes of child negative behaviour and attention on task, when comparing observation and parental reports (interview and questionnaire) of child behaviour, but not teacher accounts. Observed child negative behaviour positively correlated with parent's reports of conduct problems and hyperactivity ratings, whereas attention on task negatively correlated with parent's ratings of conduct problems and total deviance. This is in accordance with research linking attention difficulties and problem behaviour in children, thus lending support to the validity of the attention and antisocial constructs assessed via observation (Olson et al., 2002; Hill, 2002; Taylor et al., 1986).

As explained earlier, the use of a between-method approach to validity could have resulted in the overall lack of significant and substantial agreement between observation and report methods. The validation of child observation measures included three different methods (observation, interview, and questionnaire), with information provided by three different informants (observer, parents, and teachers). It was therefore expected that findings would reflect large method effects (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Poor and contradictory validity findings for observation positive affect and social responsiveness codes, and the contrast in the pattern of correlations obtained when comparing observation with parent vs. teacher ratings seems to have confirmed this. Both measurement artefact and real differences in child behaviour could explain the overall lack of agreement between different informants, particularly when comparing observation and teacher ratings (Greebaum, Dedrick, Prange, & Friedman, 1994; Patterson et al., 1992). On one level, little if any correspondence between observation and report indices of adaptive behaviour (e.g. positive affect and social responsiveness vs. pro-social behaviour) could have resulted from differential operationalisations of behaviour across method (Kazdin, 2003; Carter, Briggs-Gowan, & Davis, 2004). The report pro-social scale taps behaviours more congruent with a dimension of altruism, whereas observation positive affect and social responsiveness codes focus on the assessment of mood states and the child's ability to relate with his/her parents in an emotionally available way (Eysenberg & Mussen, 1997; Dix, 1991; Biringen, 2000). Secondly, whereas independent observers use strict operationalisations to objectively categorise behaviour, teachers may use similar and/or global/general criteria on which to categorise children, as they are used to making distinctions between

large groups within the same class (Scott, 2001). Alternatively, it could be that observation of child behaviour at home is in fact more representative of the way he/she behaves in that particular context rather than at school, thus explaining the overall higher agreement between observation and parent vs. teacher reports. Cross-situational specificity of behaviour rather than measurement artefact has often been found to constitute a primary cause of lack of agreement between different informants (Achenbach, McConaughy, & Howell, 1987; Greenbaum et al., 1994; Kazdin, 2003).

7.2. Findings for main hypotheses

7.2.1. Correlational analyses

7.2.1.1. Association between attachment-related and social learning based parenting

Attachment-related dimensions of sensitive responding, parent positive affect and mutuality positively correlated with social learning based parental attending suggesting the theoretical convergence between these constructs. Attachment Theory poses that a sensitive parent is mainly characterised by the adequacy and contingency of responses he/she provides to meet his/her child's needs in a prompt and warm manner. A continued history of predictable responsiveness to the child promotes an emotional bond to the parent as the child's sense of being loved and cared for is consistently reinforced. In the long-term the child's sense of self-esteem (i.e. perceiving himself/herself as an individual deserving of affection and care) and self-competence (i.e. felt security in an available and loving parent whilst free to explore the environment) is further promoted (Belsky, 1999; Crittenden & Claussen, 2000; Cassidy & Shaver, 1999; Beckwith et al., 2002; Ainsworth et al., 1978). Equally, according to the social learning principle of positive reinforcement, praising corresponds to a contingent response to the child's pro-social behaviour, and the latter is further reinforced through continued praising, positive commenting and/or acknowledging/encouraging remarks (Webster-Stratton & Herbert, 1996; Patterson, 1982; Scott, 2002; Forehand & McMahon, 1981). However, praising a child is not only an immediate response to pro-social behaviour but is also a concrete and objective message from the parent in which the sense of parental satisfaction and approval is conveyed because the child is exhibiting qualities and/or behaviour deserving of the parent's encouragement (Brinkmeyer & Eyberg, 2003; Webster-Stratton & Hancock, 1998). Consistently acknowledging the child as a capable individual, possessing qualities that are worthy of positive attention in a concrete and objective manner such as issuing praises, is a characteristic feature of sensitive

responding (Greenberg & Speltz, 1988; Teti & Huang, 2005; Karavasilis et al., 2003). Thus, from a cross-theoretical perspective it could be argued that more dyadic and broad dimensions, such as sensitivity, converge with specific individual parenting acts such as praising, both in its main function (i.e. to provide the child with a continued history of contingent positive responses) and impact on child behaviour (i.e. reinforcement of a positive emotional bond with the parent, increased pro-social behaviour, and development of the child's sense of self-esteem and self-competence). Key implications of this theoretical convergence is that school-age behavioural indicators of attachment-based parenting are not only identifiable but can also be measured using macro or micro-analytical methods, and by training parents in the adoption of a child-centred attitude, including contingent delivery of praises to pro-social behaviour, attachment-based qualities of the parent-child relationship are also promoted.

Overall lack of association between attachment-related parenting and directive parenting behaviour suggest that aspects of sensitive/responsive, affectionate, and involved parenting are independent from those parenting aspects focusing on control/discipline. A similar pattern of correlations was found in the study by Speltz et al (1995), examining the unique and combined contribution of measures drawn from Social Learning and Attachment Theory to the conceptualisation of disruptive behaviour. They found no significant association between directive parenting (i.e. total of clear and vague commands) as measured through the DPICS and pre-school separation-reunion measures of parent-child attachment quality focusing on proximity/physical orientation and quality of verbal exchanges. Furthermore, both these dimensions of parent-child interaction were found to independently contribute to concurrent discrimination of conduct problems in clinic-referred children from a control group, with attachment variables being the strongest predictors of clinic status.

Also, potentially contributing to the conceptual distinction between attachment and social learning based directive parenting was method artefact. Whereas the CARP relies on global assessments of more dyadic, emotion-based aspects of parent-child relationship quality, the PBCS assesses the frequency of micro-behavioural variables or single units of parental verbal behaviour, including specific types of commands. By coding the number of clear vs. vague commands issued to the child in a 10 minute play interaction, one easily misses capturing the affective/emotional components that may

characterise the dyad as mutually responsive, positively involved, and reciprocally affectionate (Mills et al., 1996; Mahoney et al., 2001; Dowdney et al., 1984; Aspland & Gardner, 2003). Furthermore, micro-behavioural measures of directive parenting miss out on key dimensions of a "goal-corrected-partnership". They mainly focus on aspects of behaviour specifically aimed at controlling the child's actions in a top-down fashion, rather than promoting the positive verbal exchange crucial in the establishment of an equally balanced cooperative and negotiated approach between parent and child (Speltz, 1990; Greenberg & Speltz, 1988; Thompson & Raikes, 2003; Patterson, 1982).

A further finding concerned the negative association between attachment-related parenting and the criticism frequency measure. This finding is consistent with previous research suggesting that sensitive parenting rules out the use of disapproving/critical remarks clearly intended to minimise the child's sense of worth, negatively impacting their self-esteem and self-competence (Dowdney et al., 1985; Gardner, 1994; Maccoby & Martin, 1983; Teti & Huang, 2005). Critical parents tend to display increased negative mood and intrusiveness, showing more irritability during interactions with their children and to be less involved in their child's activities in an interested, non-directive and enthusiastic manner. These styles of interaction have not only been found to deeply compromise the establishment of secure attachments early on in life but also to contribute to the development of conduct problems in young children (Eisenberg et al., 2001a; Dix, 1991; Lyons-Ruth, Connell, Zoll, & Stahl, 1987; Hartman et al., 2004; Speltz et al., 1995; Kochanska, 1997; Rocissano et al., 1987).

In summary, findings concerning the association between attachment-related and social learning based parenting indicated that 1) there is theoretical convergence between global and dyadic attachment constructs and event-based measures of child-centred behaviour, 2) emotion-based aspects of parent-child relationship quality are conceptually distinct from specific parental disciplinary acts consistently found to promote sound behaviour management, and 3) responsive, warm, and involved patterns of interaction are clearly differentiated from parenting styles characterised by negative affectivity and over-intrusiveness.

7.2.1.2. Association between observed parenting and observed child behaviour

The consistent pattern of positive correlations between attachment-related parenting and indices of adaptive child behaviour, in particular positive affect and social responsiveness indicates the extent to which similar dimensions of parent and child behaviour are being successfully reciprocated within the dyad. Thus, there was a tendency for both parent and child to match each other's positive mood by reciprocating smiles, positive tone of voice, and friendly conversation, as well as share their interests while completing the tasks and to co-operate with one another through acknowledging both their efforts and contributions and responding to each other's input/suggestions in a constructive way. This is in accordance with research accentuating the role of sensitive parenting in facilitating positive exchanges and promoting the establishment of a mutually responsive relationship (Maccoby & Martin, 1983; Kochanska, 1997; Gardner, 1994; Dowdney et al., 1985). Furthermore, these associations also add to numerous studies linking sensitive, affectionate and involved parenting styles with a range of adaptive outcomes in children, in this case positive emotion and cooperative behaviour (Eisenberg et al., 2001b; Biringen, 2000; Dix, 1991; Kochanska & Murray, 2000). Although a less robust finding, a pattern of positive and low-to-modest correlations between attachment-based parenting and attention on task may be an indication of the positive impact of sensitive and mutual styles of interaction on this child outcome, an important finding given the scant research conducted in this area so far (Fearon & Belsky, 2004; Woodward et al., 1998).

Overall lack of association between attachment-related parenting and child negative behaviour may have been a result of method artefact. Although child negative behaviour is a combined measure of global levels of negative affect and non-compliance frequency counts, inspection of means (see Table 4 above) revealed the highest reliance of this composite code on the number of times the child did not comply with parental commands. Thus, a composite measure mostly referring to non-compliance frequency counts may have little if any correspondence with global measures of more dyadic and emotion-based constructs such as parental sensitivity, positive affect and mutuality (Mills et al., 1996; Kazdin, 2003; Kerig & Lindhal, 2001).

Alternatively, it can be argued that overall low base rate of antisocial behaviour displayed by children in the present study (see Table 12 above) does not match the level of misconduct usually present in high risk and clinical samples where predictive

associations between responsive parenting and later problem behaviour have mostly been found (Loeber & Farrington, 2001). In a larger study including the sample given here, the level of risk posed by these families was lower than expected, with children's antisocial behaviour being within the normal range at the screening stage, parental depression ratings being lower than the national average, and levels of community cohesion being high (Scott et al., 2005a). This is in clear contrast with the type of unfavourable contexts (e.g. highly stressed, abusive or neglectful families) which have often been found to seriously compromise the ability to provide children with a continued history of sensitive care, promoting the development of insecure and disorganised attachments as well as behaviour problems (Coie & Dodge, 1998; Lyons-Ruth et al., 1987; Cicchetti et al., 2000; Carlson et al., 1989; Teti, Gelfand, Messinger, & Isabella, 1995).

Regarding the association between social learning based parenting and child behaviour, method variance could have contributed to the greater correspondence between event-based directives and child negative vs. adaptive behaviour. As explained above, the composite variable of antisocial behaviour mainly referred to frequency counts of non-compliance with parental commands. In contrast, observational measures of adaptive behaviour focused on global levels of emotion-based and relational qualities of the parent-child relationship. Thus, the pattern of correlations obtained could reflect the extent to which macro and micro-analytical variables differ in allowing for contextual elements to be considered when assessing parent-child interaction (Dowdney, 1987; Lindhal & Malik, 2001; Mills et al., 1996).

Alternatively, it could be argued that child negative behaviour increased as the number of parental directives (whether clear, vague and/or issued as a chain) and criticisms also increased. This interpretation is in line with extensive research linking intrusive and critical parenting styles with increased non-compliance/disruptive behaviour (Ispa et al, 2004; Rocissano et al., 1987; Rothbaum & Weisz, 1994; Gardner, 1992; Patterson, 1982; Dowdney et al., 1985). In interpreting these associations, consideration of bi-directionality of effects is also needed. Thus, rather than only focusing on the impact of parent behaviour on child outcome, child-to-parent effects (e.g. more non-compliance leading to an increase in directives/criticisms) may have also accounted for the associations obtained (Patterson, 1986; Lytton, 1990; Shulman et al., 1999).

7.2.1.3. Association between observed parenting and reported child behaviour (interview and questionnaire)

Overall, there was a lack of significant and substantial association between parent and child outcomes across method. As explained above, large method variance is expected to influence findings when comparing several methods/informants (Podsakoff et al., 2003; Kazdin, 2003). When comparing observation with interview (PACS) outcomes, it is possible that the behavioural definitions provided by some of the interview items had little if any correspondence with the type of more challenging behaviour that parents in the present study perceived as characteristic of their child's behaviour. This is plausible given that the PACS taps levels and intensity of difficult child behaviour not necessarily present in the children that participated in this study. Whereas this is a non-clinic population of children where levels of antisocial behaviour were minimal and mostly referring to less severe forms of disruptiveness (i.e. non-compliance) (see Table 4 above), the PACS was originally validated in a clinical population (Taylor et al., 1986) and its total score for conduct problems used in this study refers to a combined measure integrating 8 different scales some of which (but clearly not all) measure the frequency and severity of more serious forms of problem behaviour such as stealing, destructiveness, and aggressiveness (see Appendix E1).

Reactivity effects could have also accounted for the overall poor and counter-intuitive associations obtained (Gardner, 1997; Carter et al., 2004). For example, reactance to the observation procedure could explain why parents issued more praises/attending to their children, as well as forms of control that are not as forceful/imperative (i.e. vague commands) towards a child they have described as presenting more problem behaviour during the interview.

Similar to the findings above, the comparison between observation and questionnaire data revealed an overall lack of significant and substantial agreement across method. However, an interesting pattern (although not always consistent) emerged in which the direction of the associations differed when correlating observed parenting with child behaviour from parent vs. teacher ratings. Whereas observation attachment-related parenting correlated with parental ratings of child oppositional/deviant behaviour in the opposite direction (i.e. counter-intuitively), the former correlated with teacher ratings of child oppositional/deviant behaviour in the expected direction. Similar patterns of correlations were obtained when correlating the global measure of observed negative

parenting with parent and teacher ratings of problem behaviour. As previously discussed several sources of error could explain these discrepancies. Likely explanations include 1) reactance effects from parent, child or both (Gardner, 1997; Kazdin, 2003); 2) cross-situational specificity of child's behaviour (Achenbach et al., 1987; Greenbaum et al., 1994); and 3) the extent to which observation and questionnaire procedures highly differ in the level of detail and/or contextual information acquired when assessing behaviour (Podsakoff et al., 2003; Carter et al., 2004).

7.2.1.4. Association between observed parenting and doll-play child attachment representation

Although Sensitive Responding did not significantly correlate with any of the representational measures of attachment, correlations obtained were modest in size, in the expected direction and almost reached significance. Thus, a pattern of consistency in results concerning the association between all indices of attachment-related parenting and representation of attachment emerged even if statistical significance was not always reached.

The above findings lend support to the connection between increased levels of observed sensitive, affectionate and mutual/co-operative parenting styles and reduced levels of insecure and/or disorganised mental representations of attachment in school-aged children. These are manifested in the way the child creates meaning when describing qualities of social interaction in a doll-play task. In contrast, children who experience these parenting styles seem to have an increased ability to represent and to verbally express a history of social relationships that is coherent, predictable, and clear (i.e. internally consistent). This is in line with Oppenheim et al's (1997) findings. Using a volunteer low risk and mainly European-American sample of parents and their pre-school children they found that observation measures of positive parenting (i.e. guidance, emotional scaffolding, helpfulness and positive communication) positively correlated with coherence of children's narratives.

Overall, this evidence indicates that in the context of a doll-play task without direct contact with their parents, the child's discourse, characterised by consistent references to a responsive and affectionate parental figure, readily available for assuagement of distress situations, could in fact be representative of the child's understanding of social

relationships. In turn, these representations may reflect a past history of predominantly sensitive, responsive, affectionate and mutually involved parental care.

Regarding the association between social learning based parenting and child attachment representation, findings suggest that there is a link between aspects of parental attending (e.g. praising, positive commenting) and coherence in the child's narrative, whereas disciplinary styles characterised by issuing of vague/ambiguous commands to the child are associated with representations of attachment that are disorganised and/or insecure.

The finding that increase in parental attending associates with increased coherence in the child seems to mirror the pattern of correlations obtained between attachment-related parenting and this child outcome. In other words, children who have experienced a history of sensitive and affectionate parental care of which parental attending (praising, encouragement, positive commenting) is a key aspect, are more likely to go on to develop a representation of the attachment relationship that is congruent with their past experience of being cared for in a warm and accepting manner. This consistency in sensitive parental care may play a crucial role in the way children are able to make sense of their relationships coherently and to clearly and effectively express how they think and feel about them. In contrast, a parenting style that conveys ambiguity to the child, not providing him/her with a clear set of rules on how to operate may in turn contribute to a child's sense of confusion and uncertainty as to how he/she should interact with his/her parental figures. This uncertainty of not knowing what exactly is expected of them may in turn contribute to a lack of security in their attachment with their parents. This is because children may feel they cannot safely rely on a relationship where communication is characterised by ambiguity. In turn, the way these children make sense of their relationships is more likely to be marked by contradictions, incongruence, and vague and/or abstract meanings, all aspects that characterise narratives that are representative of insecure and or disorganised attachments (Bretherton, 2005; Goldwyn et al., 2000; Green et al., 2000).

Overall, results concerning the association between observed parenting and child representation of attachment not only support findings of other studies looking at the link between dimensions of parental care and representations of attachment in children (Murray, Woolgar, Briers, Hipwell, 1999; McCarthy, 1998; Toth, Cicchetti, McFie, & Emde, 1997; Vaughn, 2005) but also extend this evidence in terms of the sample and

methodology employed. Specifically, past and current research on this topic has consistently used low risk and mainly White samples. This research has also relied on reported data of child behaviour and/or attachment classifications from parent-child separation-reunion observational procedures to further investigate the association between these data and attachment representation (Oppenheim & Waters, 1995; Goldwyn et al., 2000; Vaughn, 2005). A novel proposition in this study was to examine in a non-clinical at risk multi-ethnic sample, the association between attachment-related parenting as observed in everyday play situations at home, and school-age attachment representation independently assessed through completion of a doll-play task.

Equally important in this study was the consideration of the extent to which social learning based dimensions of parenting with a clear focus on parent management and control strategies associate with measures of attachment representation in children. This topic has been consistently neglected by attachment-related research in which dimensions of sensitivity, responsiveness, and affectionate involvement have been given priority over disciplinary aspects of parenting in terms of their association with child attachment outcomes (Kerns et al., 2000). In school-aged children, attention to parental disciplinary/control strategies is perhaps even more pressing than in earlier stages of the child's development (Reid, 1993).

Children learn about attachment relationships and create meaning for them within their everyday experiences with their parents. However, consistently absent in research to date is the notion that for attachment-related behaviour to be displayed and internalised, stress-inducing situations do not necessarily have to take place as a means to measure these phenomena and to further investigate their potential connection (Thompson & Raikes, 2003; Rutter & O' Connor, 1999). In an overall pleasurable daily activity such as play, behaviours that are likely to be displayed as well as elicited are parental sensitivity, positive affect, and mutual involvement and reciprocity within the dyad and these are all dimensions that equate those originally described by Attachment Theory as crucial in the establishment of an early secure attachment in children (Ainsworth et al., 1978; Cassidy & Shaver, 1999; Crittenden & Claussen, 2000; Goldberg, 2002). Furthermore, and as suggested by the correlations found here these behaviours are potentially reinforcing the type of relationship history that has been established between parent and child since the child's early years and therefore contributing to the child's increased knowledge of the meaning of human relationships and the extent to which

they value these experiences and internalise them as representative of a secure emotional bond with their parents. In other words, a past history of sensitive care could well have been re-enacted by parents during these play tasks through displays of positive affect, mutual/reciprocal involvement and parental attending to and praising of the child. The latter could have in turn used these parenting styles as mental points of reference from which to create meaning about how relationships work, as evidenced by their discourse/narrative.

As pointed out before, it is not possible to determine the directionality of effects with correlational data and this makes any interpretation vulnerable to speculation. What the findings may be indicating instead is the extent to which the child's representational models of relationships may have served to elicit more positive vs. negative parenting in a novel situation like playing at home in the presence of an independent observer. These models have been built, assimilated and incorporated throughout the establishment of multiple interactions with their parents (as well as with other attachment figures) in a variety of settings and throughout the entire duration of their lives. Previous research has indicated that in novel situations, children with a history of negative parental care tend to enact their maladaptive representational models of relationships, which highly increases the likelihood of further rejection/maltreatment towards them (Toth et al., 1997). Thus, it could be that in this study the child's enactment of insecure and/or disorganised representational models of attachment relationships (e.g. through displays of more oppositional/difficult behaviour) during the observation play tasks has played a key role in the extent to which these children elicited less sensitive, affectionate and involved parental care. This possibility is further supported by the pattern of associations obtained when correlating indices of attachment representation in the child and observed child behaviour as discussed below.

7.2.1.5. Association between observed child behaviour and doll-play child attachment representation

Regarding the association between observed child behaviour and doll-play child attachment representation significant findings were: 1) the positive correlation between observed Child Negative Behaviour and both attachment representation of disorganisation and insecurity, and 2) the positive correlation between observed Child Social Responsiveness and representational coherence, with the former also negatively correlating with both disorganised and insecure attachment representations.

Although the remaining correlations were non-significant they were overall modest in size and in the expected direction with indices of observed positive behaviour (especially attention on task) positively correlating with representational coherence and negatively correlating with both disorganised and insecure attachment representations whereas the reverse applied to the association between observed child negative behaviour and all indices of child attachment representation. Therefore, a pattern of consistency in results emerged.

These findings suggest that even in a non-clinical multi-ethnic population of children, increased levels of observed disruptive/oppositional behaviour displayed in the context of everyday play tasks are associated with mental representations of attachment that are insecure and/or disorganised. This is in agreement with previous research reporting links between play narratives and ratings of child problem behaviour (von Klitzing et al., 2000; Warren, Oppenheim, & Emde, 1996). This evidence indicates that behaviour problems in children often coexist with narratives that are predominantly characterised by incoherence and/or chaos, emotional dysregulation, lack of availability of a responsive caregiving figure to assuage distress and/or conflict, and aggressive/hostile themes. In turn, both these outcomes are consistent with central predictions of Attachment Theory, namely that children who go on to establish an insecure and/or disorganised attachment with their caregivers are more likely to experience emotional conflict/dysregulation, i.e. being unable to successfully regulate their negative emotions in times of distress as part of a past history of unavailable, sensitive, and predictable care. This inability to cope with negative emotions severely compromises the extent to which the child feels safe in exploring and adapting to new environments. Behaviour problems may in turn be a likely response to this sense of fearfulness and lack of confidence in the establishment of social relationships, as well as serving as a strategy to deal with negative emotions (i.e. release of aggressive impulses) (Eisenberg et al., 2001a; Magai, 1999; Cassidy & Kobak, 1988).

In this study, children who displayed increased levels of observed adaptive behaviour, such as social responsiveness towards their parents, presented more secure and coherent/internally consistent mental representations of attachment relationships as assessed through examination of their narrative styles. Through using different samples and methodologies, other researchers have found a connection between observed measures of child responsiveness (i.e. extent to which the child is competent as an

interactional partner by accepting parental input, answering questions, and elaborating on parent's contributions) and narrative coherence (Oppenheim et al., 1997). Overall, this evidence suggests that children whose narratives are characterised by emotional openness, coherence, and positive descriptions of parent-child interaction, as well as of themselves, are more likely to exhibit patterns of adaptive behaviour consistent with a secure attachment with their parental figures. Children who have experienced a history of predicable sensitive, responsive, and affectionate parental care have been found to be more competent, self-reliant, attentive and willing to fully engage with the environment (Oppenheim, 1997; Jacobsen & Hofmann, 1997; Fearon & Belsky, 2004; Biringen, 2000).

A key point in this study is the observation that findings concerning the association between observed child behaviour and doll-play representation of attachment, are not only in line with previous research establishing a connection between indices of behavioural social adjustment in children and their attachment representations (Murray et al., 1999), but equally extend this type of evidence by 1) comparing observational data with attachment representations rather than relying on report assessments of child behaviour and 2) using a community sample of varied ethnic backgrounds.

In summary, findings suggest that parental sensitive care displayed and/or elicited in an at risk population of school-age children has a clear connection with the extent to which the latter have acquired an internal representation of attachment relationships which is adaptive and coherent (secure) rather than emotionally dysregulated and chaotic (disorganised and/or insecure). Given that these maladaptive representations are associated with poorer outcomes in children such as increased disruptive/oppositional behaviour, there are crucial implications for intervention. Specifically, these results draw the attention of those involved in the development of prevention/intervention programmes to the importance of targeting not only individual behavioural acts (e.g. praise, commands) but also dimensions of parenting that are more dyadic and emotion-based (e.g. sensitivity, mutuality) if one is to expect improvement in parenting as well as in child problem behaviour.

7.2.2. Change analyses

Analyses of change in parenting and child behaviour following the parenting programme indicated that 1) observed attachment-related sensitive responding and social learning based parental attending significantly improved following treatment whether on an intention to treat (IT) or a per protocol (PP) basis, 2) no significant improvement took place for social learning based directives, and 3) of all observed child behaviours, only child attention on task significantly improved following treatment in those children whose parents had the highest attendance to the programme (i.e. per protocol analysis).

These findings suggest that the behaviourally based parenting programme was effective not only in improving social learning based parental attending but also led to improvements in attachment-related parenting dimensions as well as in positive/adaptive child behaviour. As these improvements were identified at 6 months follow-up, the effect of the intervention was enduring. Improvement in parenting took place even when an intention to treat approach was adopted (i.e. absent and/or low participating parents were not dropped). This also explains the overall lower effect sizes for intention to treat vs. the larger effect sizes for protocol analysis (i.e. inclusion of parents with high attendance to the programme only).

7.2.2.1. Change in observed parenting from time 1 to time 3

The significant increase in Sensitive Responding to the child's needs indicates that 6 months after the intervention ended, parents were observed as being more attuned to their child's bids for help/assistance and also to respond promptly. The parents were more engaged in their child's activities, facilitating their completion of tasks, encouraging their achievements, and promoting their autonomy whilst still available to provide assistance when required to do so. Parents also interacted with their children in a warmer, calmer and more affectionate manner. As well as exhibiting these positive interactional styles, parents significantly increased the number of praises given and positive commenting of their child's activities.

For all parents that were assigned to the intervention group, significant improvement in sensitive responding and parental attending was moderate (d^{29} = .37, and d = .49, respectively), whereas for those parents with high attendance to the programme (5 or more sessions) there were large and significant improvements in both these outcomes (d = .67, and d = .98, respectively). For most of the other parent and child observational outcomes, improvements (although non-significant) were higher for those attending more sessions. Thus, a higher dosage of the intervention was associated with greater improvements in parent and child behaviour. Although analyses of 'treatment completers' (i.e. those not showing attrition) do not provide an unbiased estimate of intervention effects (i.e. attrition during treatment is not random), they are still important in elucidating the processes that contribute to higher effectiveness (i.e. parents and/or children benefit more with higher intervention dosage, as shown in this study) (Hinshaw, 2002b).

The significant improvement in sensitive responding has far-reaching implications in terms of the child's social and emotional development. A pattern of sensitive and responsive care has been shown to underpin attachment security from infancy, a process that once established and reinforced throughout the years is evident right up into adulthood (Cassidy & Shaver, 1999). Underlying sensitive responding are qualities such as warmth, acceptance and positive parental involvement with the child, and these aspects in turn have been shown to contribute to the child's development of a sense of competence, self-esteem, social skills, and intellectual attainment (Crittenden & Claussen, 2000; Belsky, 1999; Moss et al., 1998; Moss & St-Laurent, 2001).

The finding that both sensitive responding and parental attending increased can also reflect the extent to which both these aspects of parenting are interdependent. Correlations at pre-treatment (see above) suggested that parents displaying increased levels of sensitive responding were also observed as highly attending to their children, praising them, making encouraging remarks, describing their actions, and acknowledging their achievements. These are verbal expressions of a responsive and emotionally attuned attitude.

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[29] Effect size calculated using Regression Coefficient.

Significant improvement in parental attending can also be due to the fact that this dimension is particularly emphasised by the parenting programme. Attending refers to the social learning based conceptualisation of parenting emphasising positive reinforcement of the child's appropriate behaviour. Praising is a powerful technique for reducing misconduct and increasing adaptive/pro-social behaviour (Webster-Stratton & Herbert, 1996). By contributing to more harmonious interactions with their children, parents may feel particularly drawn to adopt praise as a new parenting skill. In other similar prevention trials the skill that parents cited more often as the most relevant and useful component of the intervention was praise (Reid et al., 2001).

Also strongly associated with sensitive responding and parental attending at pre-treatment were levels of parent positive affect (PPA) and mutuality (M). Although both these indices of attachment-related parenting improved at follow-up, change was non-significant. However, examination of effect sizes indicated that change in PPA was minimal in both IT and PP analyses (d = .05, and d = .08, respectively), whereas change in M ranged from small (d = .24) to moderate (d = .35) depending on whether or not parents had high attendance to the programme. Thus, it is possible that the intervention was more successful in improving behavioural aspects of sensitive responding (e.g. increased responsiveness in the form of praises and positive commenting) crucial in facilitating more reciprocal/mutual interaction with the child, rather than impacting on parental mental processes (i.e. thoughts, emotions) implicated in the assessment of mood states.

Despite being a direct aim of the parenting programme, the number of directives issued to the child did not significantly decrease following the intervention. This outcome contrasts the significant reduction in instructions that generally takes place following parenting programmes with parents of antisocial, clinically referred children (McMahon & Forehand, 2003). The fact that this outcome did not take place in this prevention trial may be a direct result of an overall lack of antisocial behaviour exhibited by these children, which leads to their parents not needing to reduce their level of directiveness/limit setting in the first place (i.e. the amount of commands issued to their child was appropriate from the start). This interpretation is also consistent with the view that to a certain extent, non-compliance may be developmentally adaptive and thus not requiring increased firm parental control (Kuczynski, Kochanska, Radke-Yarrow, & Girnius-Brown, 1987; Kuczynski & Kochanska, 1990; Kotler & McMahon, 2004).

Another possible reason for this outcome was that an intervention of 12 weeks might not have been long enough for parents to get sufficient practice in changing their directive style of relating to their children. However, the duration of the programme is unlikely to have accounted for the lack of change in directives, given that in a similar prevention trial using a longer version of the same intervention (Scott et al., 2005b), the number of commands did not significantly decrease either. There is also the possibility that in comparison to other specific elements of the training programme (e.g. increase of praising), this particular aspect of disciplinary parenting was not emphasised as much by the group leaders.

In terms of negative (globally rated) and critical (frequency count) parenting, no significant change was detected. However, effect sizes indicated that improvement in both these dimensions ranged from small for all assigned cases (d = .16, and d = .24, respectively) to moderate for those attending more sessions (d = .28, and d = .31, respectively). The overall low base rate of these behaviours, and in particular the extremely low frequency of critical comments (Table 4 above), means that significant change was more difficult to detect.

In summary, to the author's knowledge this study is unique in showing that in a non-clinical at risk population of school-aged children, a behaviourally based parenting programme, theoretically founded in Social Learning Theory, was effective not only in changing individual parenting acts that serve as positive reinforcers of pro-social behaviour (i.e. number of praises to child), but also in changing levels of sensitive responding, an Attachment Theory derived parenting concept with a particular focus on the warm, parent-child positive interaction style that has been shown to relate to child attachment security and socio-emotional well being (Cassidy & Shaver, 1999). Given that there have been proponents for behaviourally based approaches who have decried attachment approaches and vice-versa (Speltz, 1990; Greenberg et al., 1997), the potential policy implications of this study are far-reaching. By showing that an emotionally aware, behaviourally based parenting programme can affect the parent-child relational style, this cross-theoretical approach becomes more acceptable to a wider range of therapists and counsellors. Interventionists who take too strict a behavioural position or professionals using Attachment Theory as the main paradigm underlying their work are necessarily missing out on the fact that problems in parenting (independently of which conceptualisation is used to qualify this phenomenon) usually

co-occur and cumulatively affect child outcome (Kerns et al., 2001; Barth et al., 2005; Bosmans et al., 2006). In the particular case of preventive/interventive work targeting reductions in child problem behaviour, effectiveness can be increased if training in effective parenting not only involves the teaching of behavioural techniques to reduce/extinguish misbehaviour, but also consists in the learning of alternative ways in which parents can promote the (re)establishment of an affectionate, accepting and reciprocal relationship with their children (Sutton, 2001; Scott, 2003a; Barth et al., 2005).

7.2.2.2. Change in observed child behaviour from time 1 to time 3

For children of those parents with the highest attendance to the programme (i.e. 5 or more sessions), observed attention on task significantly improved. No significant improvement was found for any other child direct observation outcome including antisocial behaviour. In fact, observed antisocial behaviour was hardly existent. A finding that is not surprising if it is taken into account that other investigators have found it difficult to evoke meaningful levels of antisocial behaviour in the context of parent-child interactions where undivided parental attention is provided to the child. This difficulty remains even when child behaviour is observed in the context of mildly stressful tasks such as those used in this study (e.g. tidy up) and is also an issue when studying samples that have been specifically selected for child antisocial/disruptive behaviour (Aspland & Gardner, 2003). Since there were changes in parenting behaviour, these child outcomes were at first surprising.

Possibly explaining change in parenting but not in child behaviour is that a follow–up of 6 months may be sufficient time for parents to alter their behaviour and/or relational styles but not long enough for children to internalise their parents' newly acquired skills and alter their behaviour accordingly. Other researchers have referred to this "de-synchrony" in change outcomes as indicative of the extent to which the course of behavioural change might vary independently in parent and child (Kazdin, 2003).

Overall lack of child improvement could also be due to the child observation instruments used not being sensitive to change. However, this is unlikely as these measures tap indices of child social adjustment that research has not only consistently shown to associate with parenting practices similar to those investigated here, but also

as referring to child outcomes targeted for treatment by social learning based parenting programmes like the one offered in this study and found to improve/change at post and/or follow-up stages (Webster-Stratton et al., 2001; Kazdin, 2005; Rothbaum & Weisz, 1994; Scott et al., 2001a). Additionally, and as previously discussed, the measures of child behaviour used in this investigation were found to be reliable, stable and valid.

No change in child antisocial behaviour could also be a direct result of overall lack of problematic behaviour by these children from the outset (Reid et al., 2001). Thus, absence of significant levels of antisocial behaviour at baseline could explain lack of change at follow-up. Other studies indicate that whereas parenting programmes have been shown to be effective in reducing excessive non-compliance to basal levels, little change normally occurs when children's initial non-compliance is low/minimal (Kotler & McMahon, 2004). Therefore, it could be that in this particular trial there was little room for improvement as few measures could index change for children who were already doing well. However, given that parental positive attending greatly improved and the children were now experiencing a more positive relationship with a more sensitive and responsive parent, it would be wrong to conclude that the children in this study did not benefit from the parenting programme. This clearly contrasts preventive interventions where, even though there is clear parental satisfaction with the service, no measurable change in either parenting or child behaviour is detected (Scott et al., 2005a).

It could also be the case that the delivery format of the intervention contributed to lack of overall change in child behaviour. That is, as suggested by Lundhal et al (2006), a group delivered parenting programme may not have been individually tailored enough in order to meet the specific needs of these disadvantaged families and consequently resulted in little or no benefit to their children. However, this is unlikely as this programme has been found to be effective in improving both parent and child behaviour in numerous trials (Webster-Stratton, 1981; Webster-Stratton & Hammond, 1997; Webster-Stratton et al., 1989) including those targeting community-based at risk multi-ethnic samples (Webster-Stratton et al., 2001; Reid et al., 2001). This is also a culturally sensitive programme, and parents of various ethnic/cultural as well as socio-economic backgrounds have often reported overall high levels of satisfaction with its components, format and delivery quality (Reid et al., 2001; Scott et al., 2005a; Kazdin, 2005).

Another possibility is that a longer intervention dose could have led to detectable change in more child measures. In a similar trial (Scott et al., 2005b) where a longer version of the parenting programme was conducted, major changes in specific areas of child functioning (e.g. reading ability) were detected. Thus, it could be that this shortened version of the intervention was sufficient in leading to changes in parenting behaviour and in measures of child behaviour that can show improvement when starting in the normal range (i.e. attention) but not long enough to change baseline levels of other specific outcomes such as antisocial behaviour.

It could also be argued whether the intervention was delivered in a skilled enough way in order for measurable change in child behaviour to be detected. Strong effect of delivery quality on child outcomes has been found in previous work (Scott et al., 2005b). In the present trial however, quality of delivery was assured as the main group leader was highly experienced, received weekly supervision, and was also involved in previous trials that proved effective. Improvements in both parental attending and sensitive responding and in child attention also constitute evidence of skilled delivery of the parenting programme. A more objective assessment of delivery quality can be obtained by independently rating the videotaped group sessions. As these have been retained, future observational data on this particular outcome is expected (Scott et al., 2005a).

7.3. Findings for additional analyses

7.3.1. Mean differences in observed parenting at pre-treatment

Results from ANOVAS indicated that there were significant mean differences in observed parenting according to ethnicity. Specifically, compared to other ethnic groups, West Africans scored significantly lower on attachment-related parenting and higher on a global measure of negative parenting (negative affect and intrusiveness). These results were not entirely unexpected. Recent studies looking at ethnic variation in parenting practices through parental report have provided a somewhat consistent picture in which parents of African-based backgrounds have been found to have an overall harsher/punitive parenting style in comparison to parents of White and other ethnic origins (Deater-Deckard, 1996; Lanslord et al., 2005). Thus, (and to a certain extent) in this study observed ethnic differences seem to confirm main differences obtained via parental account. Whereas it is clear that there seems to be a correspondence between

previous findings indicative of reported harsh/strict/punitive discipline in African groups and the higher rate of parent intrusiveness and negative affect observed in West African parents that participated in this study, prior research does not provide an equivalent for the variation in observed attachment-related qualities across ethnic groups that was found here.

A potential reason underlying these differences is that parents of West African origin may have clear distinct cultural beliefs from Western parents on how best to raise their children. They may emphasise use of stricter discipline rather than more affectionate/warm parenting styles as beneficial to their children's internalisation of rules and commitment to comply with parental demands and requests. This emphasis on stricter parenting may in turn serve as a protective factor against external negative influences in the child's life. This is especially true of the families here studied as they are poor, living in deprived and socially excluded areas where dangers may come in varied ways from involvement with deviant peer groups, exposure to street violence, and criminal activities (Webster-Stratton et al., 2001, Prinz & Miller, 1991; Scott et al., 2005a). However, this argument is not totally satisfactory as these social circumstances apply to all ethnic groups here studied. Parental behaviour towards the child as a reaction to social adversity is not therefore the only factor accounting for these differences and other factors independent of social context must therefore be involved and further considered.

The clear distinction in observed parenting styles between West African and both Black Afro-Caribbean and White British groups could also be indicative of acculturation processes. That is, in contrast with the latter the West African group is mostly comprised of families that have recently immigrated to the UK (i.e. 1st generation) (Scott et al., 2005a). Thus, it can be argued that in contrast with West African parents, parenting practices of parents in both the White British and the Black Afro-Caribbean groups already have a longer history of being moulded according to the more traditional Western views of what constitutes good/effective parenting. This view tends to emphasise the establishment of a positive emotional bond with the child through expression of warmth, responsiveness to child's needs and involvement in child's activities in a more child-centred rather than child-directive way. This emphasis on parental responsive and mutual/reciprocal styles of interaction is in turn thought of as a key factor leading to the child's internalisation of behaviour, rules and commitment to comply with minimal parental control (Kochanska, 1997; Kochanska & Murray, 2000).

It is also of interest to note that ethnic variations in parenting could only be detected when assessing dimensions of parenting in a global rather than event/frequency count basis. This calls attention to the importance of using measures that rely more heavily on contextual cues and emotional signals rather than just counting frequencies of a specified unit of behaviour (Aspland & Gardner, 2003; Dowdney et al., 1984; Mills et al., 1996). That is, if parenting is translated only in terms of the amount of commands and/or praises given to the child in a 10 minute period other crucial information is necessarily lost such as the tone of voice used, gestures and facial expressions that were displayed, overall mood disposition, etc. Both types of information complement each other and (as was the case here) can more effectively discriminate differences in parenting across groups.

Significant mean differences in observed parenting according to education, income and marital status were also found. Overall, findings indicated that lone parents, with less education, and of lower income obtained significantly lower scores on attachment-based parenting and higher scores on critical and/or directive parenting. This pattern of findings is in accordance with research on the effects of key environmental factors on parenting quality (Maccoby, 1980; Garmezy & Rutter, 1983; Belsky, 1984). Low education, economic hardship and lone parenthood constitute well-known risk factors for effective parenting, and have often been found to contribute to the early development of problem behaviour in children (Gardner et al., 2004; Webster-Stratton & Hooven, 1998). Equally, the presence of all these factors means that the families here studied are facing multiple chronic stressors known to put an enormous strain on the parent-child relationship, affecting the establishment of secure attachments from early in the child's life (McLoyd, 1998; Sameroff & Fiese, 2000). As shown in a recent study by Raikes and Thompson (2005), mothers facing several indices of emotional (e.g. separation from partner) and economic risk (e.g. single parent) behaved less responsively towards their children, which in turn undermined attachment security. Raikes and Thompson's study not only showed that maternal behaviour mediates the association between emotional and economic risk and attachment security but also adds to the extensive literature on the deleterious effects of cumulative risk on supportive parenting and the child's healthy socio-emotional development.

The present study also showed that there were no significant mean differences in parenting according to child's gender. In general, findings indicated that children of both sexes were treated similarly by their parents. Whether conceptualising parenting in attachment (e.g. sensitivity) or social learning (e.g. positive attending) terms, boys and girls experienced similar parenting quality in this study. While this is in accordance with Lytton and Romney's (1991) meta-analytic findings indicating an overall lack of significant gender effects in parent's socialisation behaviour, it also contradicts the meta-analytic outcomes by Leaper and colleagues (1998). Contrary to this latter investigation, which focused on observational studies of language, findings in the present study did not indicate differential use of supportive speech (e.g. expressions of praise) by parents with boys vs. girls. However, unlike Leaper et al's (1998) study, the present investigation did not focus on child gender effects on parenting quality according to setting (e.g. natural vs. laboratory). Furthermore, in this study analyses were conducted across all play activities so potential differential parental treatment of boys vs. girls according to type of play (e.g. free-play vs. Lego) could not be identified. As shown by Lindsey and Mize (2001a), potential contextual differences in gender-differentiated patterns of parent-child play behaviour could be identified if conducting analyses per task.

7.3.2. Association between reported mental health and observed parent and child behaviour at pre-treatment

Lack of association between reported parental mental health and observed parenting was to a certain extent expected. This is because report measures of mental health may prove very intrusive for individuals in general (Mrazek et al., 1995). Admitting to suffering from mental health problems is still very much seen as a social taboo, and may lead the individual to feel he/she has been exposed and labelled as unstable or unfit to maintain control over his/her life in a healthy and responsible manner (Carter et al., 2004). This instability can be understood as negatively affecting the individual's ability to cope with the day-to-day stresses including the demanding task of parenthood. The sample of this study consisted of a deprived inner city and mostly minority ethnic group of families. Although this is not a clinical population it is nevertheless characterised by poverty, high unemployment, and lone parenthood, all factors that are often associated with poor mental health outcomes such as depression (Kazdin, 2005; Webster-Stratton & Hooven, 1998; Scott, 2002; Prinz & Miller, 1991). Thus, the likelihood of these families experiencing increased rates of mental health difficulties was high. However,

as reported in Scott et al (2005a) for the larger sample from which the present sample was drawn parents reported fewer symptoms of anxiety and depression than the UK average. This may indicate the reluctance on the part of these parents in providing a more honest/realistic account of the state of their mental health at the time of assessment. Thus, lack of association between reported mental health and observed parenting behaviour may be a result of the extent to which GHQ report data was affected/biased by social desirability.

Another possibility is that in order for significant associations with parenting behaviour to be found, rather than using a measure that broadly assesses parental psychopathology like the GHQ other specific measures of depression are needed. That is, dimensions of parenting behaviour like the ones measured in this study may be associated with specific depressive symptomatology but not with more general aspects of psychopathology (Arney, 2004; Kazdin, 2003).

It is also possible that in a situation like play, manifestations of behaviour more often associated with depressive mood such as irritability/negative affect and intrusiveness are not as frequent/common. However, this seems unlikely as each specific task was successful in eliciting parental negative dimensions of behaviour and both coding schemes provided clear definitions and operationalisation of key behaviours to be coded that have previously been found to characterise the behaviour of depressed mothers (Aspland, 2001). In fact, when correlating the GHQ scores with observed parenting, even though none of the correlation coefficients were statistically significant most were in the expected direction (i.e. whereas there were positive correlation coefficients between GHQ scores and both directives and criticism, a negative correlation coefficient was obtained when correlating observed parent positive affect and reported mental health). Thus, it could be argued that this pattern of correlations may be indicative that in play interactions, being directive and critical towards their child, displaying negative mood, and interacting with their children in an intrusive rather than in a more child-centred way, corresponds to the types of parental behaviour more often exhibited by those parents who reported more mental health difficulties in this study.

The finding that observed child negative behaviour positively correlated with reported mental health indicates that during the completion of play tasks, child non-compliance and negative affect were behaviours commonly displayed in response to those aspects

of parental behaviour that often characterise parents suffering from depressive or irritable mood, i.e. intrusiveness, criticism, and negative affect/mood/disposition (Gardner, 1992; Garmezy & Rutter, 1983; Webster-Stratton & Hooven, 1998). It could also be that the child's behaviour is reflecting his/her past history of interactions with a parent that has often displayed a negative/more intrusive parenting style but that was not necessarily displayed in the context of these particular play tasks (i.e. potentially more aware of the camera than his/her child, parents may have altered/masked their predominant parenting style and instead exhibited more positive behaviour than usual to a child that still reacts to a past history of less child-centred and responsive parenting).

7.3.3. Association between reported sense of parental competence and observed parent and child behaviour at pre-treatment

The positive correlation between the PSOC and observed levels of positive affect and mutuality suggests that in those parents who acknowledge their increased sense of competence in their parenting role, the ability to establish an affectionate and mutual/reciprocal positive exchange with their children is enhanced (Johnston & Mash, 1989; Mrazek et al., 1995). These are parents who admit their familiarity with parenting tasks and their high satisfaction with being a parent. Thus, their approach to the parenting role is a positive and confident one, feeling well prepared to face all the demanding tasks that it encompasses. In the context of play interactions with their children they are more likely to feel enjoyment with the activity, take pleasure from being in the company of their child, show interest in being involved and co-operate with him/her. This mutual co-operation and enjoyment is therefore shared with the child who will therefore be more likely to respond to the experience in a positive way through displays of positive affect such as smiles, funny faces, happy talk, etc, and be less likely to exhibit difficult or uncooperative behaviour such as non-compliance and irritability. This style of child responsiveness to an involved, warm, and co-operative parent seems to support the pattern of associations obtained between PSOC scores and both observed child positive affect and negative behaviour.

Clearly, with correlations one cannot ignore the possibility that it is the child's behaviour that could be influencing the extent to which the parent feels satisfaction in his/her parenting role and therefore perceives himself/herself as a more competent and capable parent. In other words, it is plausible that less problem behaviour and more positive affectivity exhibited by children in this study could have played a major role in

their parent's increased sense of efficacy and self-esteem. This interpretation is congruent with studies showing that comparatively to their non-problem counterparts. parents of hyperactive children score significantly lower on reported self-efficacy (Mash & Johnston, 1983; 1990). Furthermore, research has also shown that the learning of behavioural strategies for managing problem behaviour results in increased parental sense of efficacy in mothers of hyperactive children (Johnston, 1989). These studies suggest that feelings of inefficacy may be a result of the parent's unsuccessful and futile attempts to control a child presenting with difficult, oppositional behaviour. A past history of problematic interaction with a more challenging child could also lead to parental perceptions of the child as difficult. Accompanying these perceptions are parental feelings of inefficacy and lack of control (e.g. Sirignano & Lachman, 1985), emotional distress (e.g. Conger, McCarty, Yang, Lahey, & Kropp, 1984), and helplessness in response to child problem behaviour (e.g. Bugental & Shennum, 1984). In a similar vein, and as suggested by the findings of this study, it could be that the child's pro-social behaviour and positive affect toward their parents has contributed to a history of successful caregiving experiences, which in turn may have served to enhance parental sense of efficacy and self-esteem (Mash & Johnston, 1990).

7.3.4. Demographic predictors of change

Investigation of parent/child demographic factors that could potentially moderate change in parent/child observed behaviour following the intervention revealed that, for the majority of the variables assessed in this study, no significant predictors of follow-up change were identified. Exceptions to this are discussed below.

7.3.4.1. Predictors of change in observed parent behaviour from time 1 to time 3

In relation to White British parents, those of Black Afro-Caribbean and Other ethnic groups did less well in terms of levels of Parent Positive Affect (PPA) at follow-up. Also, in relation to having a professional/technical qualification, lower levels of follow-up PPA scores were obtained for parents with the lowest level of education (i.e. left school before/by 16). Finally, significant higher levels of PPA at follow-up were obtained for separated parents in relation to married parents.

These findings should be interpreted in light of the mean differences in parent behaviour identified at pre-treatment (see ANOVA results above) as well as the demographic characteristics concerning each individual ethnic group (see Table 36 in Appendix S1). Thus, the finding that at pre-treatment White British parents scored higher on attachment-based dimensions (including PPA) in relation to other ethnic groups (especially the West African and the Black Afro-Caribbean) may be indicative of the extent to which baseline levels of behaviour predict later outcomes. That is, it could be that parents who exhibited higher levels of positive mood (as well as overall sensitive and mutually-involved parenting) from the start were more responsive to treatment than parents in which levels of positive mood were low/minimal. In fact, low levels of positive affect are characteristic of depressive mood and this is a factor known to be associated not only with less positive parenting but also with poorer outcomes in parenting programmes (Scott, 2002). This is because parents who experience higher levels of depressive mood may find it particularly challenging to gain and/or maintain the high level of motivation needed to consistently and adequately implement behaviour modification techniques required for successful outcomes. Thus, for these parents lower attendance as well as higher rates of dropout is more likely to occur (Reyno & McGrath, 2006). Effectively, in this study Black Afro-Caribbean parents had the lowest level of attendance to the programme (i.e. of 16 allocated to treatment only 1 attended 5 or more sessions) (see Appendix S1).

Although this possibility could have accounted (to a certain extent) for the above findings it is nonetheless far from satisfactory as pre-treatment levels of PPA in both the Black Afro-Caribbean and parents of Other ethnic groups were similar or even greater than those of the White British parents (see Table 24 above). Thus, findings may reflect the influence of factors other than baseline levels of behaviour. By considering the specific demographic characteristics of each ethnic group (see Table 36 in Appendix S1) it is clear that there are key points of divergence between groups in terms of socio-economic circumstances which in turn may have played a crucial role in moderating treatment outcome. Specifically, major differences between the White British and the Black Afro-Caribbean groups refer to marital, separation, employment, housing and education status. Whereas the majority of Black Afro-Caribbean parents are separated, (half are lone parent), employed, living in council houses/flats and gained professional qualifications or degrees, the majority of White British parents are married, unemployed, living in owned/rented private properties and left school before/by 16.

Although impossible to ascertain the complex ways in which all these factors may interact and impact both parent and child behaviour in each ethnic group, they could nevertheless be helpful in explaining treatment outcomes. Thus, the finding that in the Black Afro-Caribbean group there were significantly lower levels of follow-up PPA in relation to the White British group may reflect the extent to which the former experienced increased stress due to lone parenthood and/or separation from previous partners coupled with the demands of raising a child and living in less favourable conditions in spite of having a job and qualifications. These stressful circumstances not only may have had a negative impact in overall levels of parental mood detectable at pre-treatment but also may have exerted an enduring effect during and after the end of the parenting programme. Most of the White British parents on the other hand, although unemployed and with the least education may have been in a better position to cope with stressful conditions (and thus feeling more positive and receptive to treatment) due to the emotional and financial support they were more likely to have due to living with a spouse.

The findings concerning separation from previous partners as a predictor of significant increase in PPA at follow-up were somewhat surprising. In this study, out of 39 separated parents 32 were lone parent, a know risk factor for parenting outcomes as well as treatment response (Webster-Stratton & Hooven, 1998; Lundhal et al., 2006). In relation to married parents at pre-treatment separated parents scored significantly higher on measures of observed negative/intrusive and critical parenting (Tables 27-28 in Appendices Q3-Q4). Overall increased levels of positive mood at follow-up may indicate that, contrary to expectations these parents were coping rather well in spite of the difficulties often associated with lone parenthood. The parenting programme offers a great deal of support through group discussions, close contact with other parents, role-plays, etc (Scott, 2002; Webster-Stratton & Hancock, 1998). Lone parents in particular may have found these specific components of the intervention as empowering and supportive, providing a safe environment in which to further explore their particular difficulties in their parenting role. Overall levels of satisfaction with the programme may have in turn helped in promoting a general sense of well being detected at follow-up through increased displays of positive affect.

Less is known about the potential reasons explaining why parents of Other ethnic groups did significantly worse in terms of follow-up levels of PPA in relation to White British parents. This group was not only extremely small in size (n=5) but was also of marked heterogeneity in terms of ethnic backgrounds (i.e. including Mediterranean, Mixed and South East Asian origin). This heterogeneity adds more complexity to the extent to which ethnicity and/or other confounders may predict later outcomes.

7.3.4.2. Predictors of change in observed child behaviour from time 1 to time 3

Although boys have been found to be as likely to improve as girls (Scott, 2002), 'being a boy' significantly predicted reduction in Child Attention on Task (CAT) at follow-up. This effect was maintained even after controlling for the effect of the intervention, which was significant for high attendants (i.e. participated in 5 or more sessions). At pre-treatment, although baseline CAT scores were very similar for both sexes, boys had higher mean levels (although non-significant) of child negative behaviour compared to girls (see Table 29 in Appendix Q5). It could be that more marked antisocial behaviour at baseline reduced the size of change in aspects of behaviour closely linked to indices of disruptiveness (i.e. ability to concentrate, control of activity levels, etc).

It is also possible that in relation to girls, boys were already displaying substantial hyperactivity from the start, which was not evident during the play observations. Increased hyperactivity at pre-treatment has been found to predict poorer intervention outcomes (Scott, 2002).

In any case, it should be noted that although boys' CAT scores increased significantly less compared to girls', for those children (irrespective of gender) whose parents attended 5 or more sessions the intervention was still effective in significantly increasing attention levels at follow-up, whereas this was not the case for those whose parents had minimal (1-4 sessions) or no attendance (0 sessions) to the parenting programme.

Interestingly, baseline PSOC scores were found to significantly predict reduction in Child Social Responsiveness at follow-up. As explained above the PSOC measures the extent to which parents feel satisfaction with and familiarity/competence in their parenting role. At pre-treatment, this was found to associate with positive aspects of

parenting and child observed behaviour including increased ability to mutually interact with one another and increased displays of parent and child positive affect (Tables 30-31 above). Although no association was found between the PSOC and other indices of parenting behaviour such as directives, adequate limit setting is a key aspect characterising competent parenting (Scott, 2002; Patterson, 1982; Patterson et al., 1992; Gardner, 1992). A key feature of appropriate discipline is providing the child with clear, unambiguous directives issued one at a time (i.e. alpha commands). This is also a main component of the parenting programme. It could be that during the intervention, perceptions of parental competence have been worked through to integrate these aspects of parenting that are more closely linked with the adoption of specific disciplinary styles rather than focusing only on the level of positive involvement in the child's activities. The newly acquired disciplinary skills could have in turn impacted on the child's willingness to socially respond to his/her parent in a positive/pro-social way during a short play interaction. During the coding of the observations it was often the case that even when parents disciplined their children in appropriate ways, these children tended to withdraw from social interaction, resorting instead to complying with parental directives in a mechanical way. In other words, the act of compliance often lacked social acknowledgement of parental input (i.e. there was no child's initiation of conversational exchange prior to, during or immediately after the command) and/or no acknowledgement of parental presence during the interaction (e.g. child did not establish eye contact when directed by his/her parent thus providing no physical cue of an ability to relate to the other member of the dyad in a socially responsive way).

7.4. Ethnicity findings

7.4.1. Correspondence between observed attachment-related parenting and observed child behaviour per ethnic group

Overall, the pattern of correlations concerning the association between attachment-related parenting and observed child behaviour across the three main ethnic groups of the sample (i.e. West African, White British, and Black Afro-Caribbean) revealed more commonalities rather than differences. There were positive correlations between Mutuality (M) and Child Social Responsiveness (CSR) as well as between Parent Positive Affect (PPA) and Child Positive Affect (CPA) in all ethnic groups. Sensitive Responding positively correlated with CPA and CSR in the West African and the Black Afro-Caribbean groups, whereas in the White British group Sensitive Responding (SR) positively correlated with Child Attention on Task (CAT) only. Finally, none of the

three indices of attachment-related parenting associated with Child Negative Behaviour across ethnic groups.

These findings suggest that aspects of sensitive, affectionate and involved parenting associate with pro-social/adaptive outcomes in children including positive affect and social responsiveness to parental input and that these associations are not moderated by ethnicity. Similar outcomes have been reported by Bernstein et al (2005), who found a strong positive correlation between observed measures of sensitivity and observed child positive involvement across four different ethnic groups including Anglo-American and African-American dyads.

Although no significant correlations were found between SR and both CPA and CSR in the White British group these were nonetheless in the expected direction and mirrored the significant associations found between these outcomes in the West African and the Black Afro-Caribbean groups. Thus, overall findings revealed that SR, PPA and M positively correlated with CPA and CSR across ethnic groups and these outcomes can be understood in light of Bernstein et al (2005) measurement procedures. In their study, the sensitivity scale comprised items focusing on positive responsiveness to child's verbal/non-verbal behaviour, encouraging and following the child's lead, and warm interaction with the child. Whereas these are all components of the specific behaviours used to operationalise SR in the present study (see CARP in Appendix F1), other items of the Sensitivity scale in Bernstein et al (2005) study were operationalised here in terms of Parent Positive Affect and Mutuality. These are items referring to the extent to which the parent shows enjoyment while engaged in the child's activities, is interested in the child's play and positively responds to child-led transitions, and maintains conversation with the child throughout the interaction. Also, in the above study items in the "Child Positive Involvement" scale referred to the extent to which the child initiates interaction and/or invites the parent to take part in the activity, acts as if emotionally connected to him/her, smiles and shows enjoyment in a variety of situations, and expresses interest in his/her parent (chatting, asking questions, being respectful and/or concerned about him/her). These items clearly equate the specific behaviours operationalised here as Child Positive Affect and Child Social Responsiveness (see CARP and CGCS in Appendices F1 and I1).

Thus, findings suggest that in the context of play tasks and regardless of ethnic/cultural background positive parent-child behaviours are being successfully reciprocated within the dyad. In other words, increased displays of positive affect are shared between parent and child and increased mutual involvement provides the child with increased opportunities to be socially responsive to parental efforts at interaction.

Interestingly, all indices of attachment-related parenting including Sensitive Responding positively correlated with observed Child Attention on Task in the White British group only. This seems to suggest that in this particular ethnic group aspects of sensitive, affectionate and involved parenting may be beneficial to children's self-regulatory skills such as level of attentional performance. Other research has confirmed that patterns of warm and sensitive care with a particular focus on providing the child with high levels of cognitive stimulation (e.g. richness of verbal input, promoting give and take in verbal/non-verbal exchanges, encouraging diversity when choosing play materials, etc) contribute to the development of competent self-regulation in school-aged children (Olson et al., 2002). Furthermore, responsiveness and cognitive stimulation not only relates consistently and positively to concurrent and later attention (NICHD, 2005), but also to the child's willingness to comply with parental authority (Olson et al., 2002). The latter not only has been construed as another manifestation of early self-regulatory competence but also acts as a protective factor against the development of disruptive behaviour, a commonly associated feature of attention problems (Woodward et al., 1998). In light of this, the pattern of correlations found here may indicate that in relation to other ethnic groups, the way White British parents express sensitive, warm and involved care relies more heavily on providing their children with more opportunities for cognitive stimulation through increased initiation of verbal/non-verbal exchanges, attentiveness to child's play interests, promoting the use of a wide range of materials to play with, encouraging imaginary play and/or elaborating on child's play themes, etc. This pattern of parental behaviour may in turn have contributed to the child's increased motivation to maintain his/her focus on the tasks at hand (i.e. his/her higher levels of attention to and/or engagement in the play activity were enduring, without switching from one activity to another in a relatively short period of time). The notion that there may be a greater emphasis on providing children with more opportunities for cognitive stimulation in White/Western cultures was also proposed by Bernstein et al (2005). In their study, in contrast with African-American parents Anglo-American parents not only scored higher on observed levels of sensitivity and teaching but these parental

behaviours were also positively correlated with the HOME[30] cognitive scale in this group only.

Other studies have also indicated that early provision of highly enriched environments, providing more cognitive stimulation and support, is higher among White families when compared to other ethnic groups, including African-American families (Bradley, Caldwell, Rock, Ramey, Barnard, Gray, Hammond, Mitchell, Gottfried, Siegel, & Johnson, 1989). This suggests the possibility that in the present study, White British parents not only differ from the West African and the Black Afro-Caribbean families in the extent to which their parenting behaviour offers greater opportunities for cognitive stimulation, but also in the extent to which the quality of their home environment is sufficiently good in providing their children with a variety of stimulating materials and multiple learning experiences. In fact, it was evident through the coding of the observations that White British children were often more familiarised with the play materials on offer (e.g. Lego) whereas West African children as well as their parents expressed minimal or no previous experience of using the types of toys provided. In several occasions, West African parents also mentioned they had little experience of playing together with their children.

Also congruent with the idea that promotion of cognitive development may be particularly marked in White populations, is the possibility that the child's increased attention level could have served to elicit more sensitive, affectionate and involved parental care among the White British families studied here. In other words, White British parents may have been particularly responsive to increased behavioural manifestations of attentiveness, since this aspect of child functioning may be especially valued by them. When more attentive, children's opportunities for learning are highly increased and they may be perceived as more competent and socially rewarding. These behaviours may not only lead to more synchronous interactions with their parents (Keown & Woodward, 2003), but may also be further reinforced through increased displays of sensitivity, warmth and involvement.

Also mirroring Bernstein et al's (2005) findings was the lack of association between attachment-related parenting and observed Child Negative Behaviour found in this study. Lack of association between dimensions of sensitivity and child conduct

[30] Home Observation for the Measurement of the Environment (HOME).

problems has also been reported in many other studies. However, much of this evidence refers to low risk non-clinical samples. Where associations have been found between warm and sensitive/responsive parenting and child antisocial behaviour, studies have used high risk populations (Loeber & Farrington, 2001). Thus, it is somewhat surprising that no such associations took place in the present sample. However, as reported by Scott et al (2005a) although these were disadvantaged inner-city multi-ethnic families, many (especially those of West African origin) were doing well due to their strong community ties (e.g. through involvement in church activities) and commitment to further develop in their education and professional status (e.g. going back to higher education, working long hours, etc). Aspects of social cohesion in deprived communities have been found to exert a much stronger effect on levels of parenting problems, child disruptive behaviour and rates of delinquency and criminality over and above any effect of economic disadvantage (Barnes et al., 2005). Thus, although these families were living under conditions of economic deprivation they might not necessarily match the level of social risk underlying the association between attachment-related parenting and conduct problems.

Lack of association between attachment-related parenting and CNB could also indicate that regardless of ethnic/cultural background, whereas there is a clear impact of attachment variables on levels of child positive emotional, social and cognitive competence, no impact is exerted on indices of difficult, non-compliant, and oppositional behaviour. Alternatively, it could be that children exhibiting these maladaptive behaviours elicit different parenting styles perceived as more effective in managing child disruptiveness (i.e. reliance on disciplinary/harsh/coercive parenting).

7.4.2. Correspondence between observed attachment-related parenting and child attachment representation per ethnic group

Correlations between attachment-related parenting and child representation of attachment per ethnic group revealed no significant association between these parenting and child outcomes in the West African families whereas observed Sensitive Responding negatively correlated with representation of attachment insecurity in both the White British and the Black Afro-Caribbean groups. A negative correlation was also obtained between SR and representation of attachment disorganisation in the White British group only. In the Black Afro-Caribbean group, both SR and Parent Positive

Affect positively correlated with coherence of attachment representation, whereas both insecurity and disorganisation were negatively correlated with PPA.

Although correlations between attachment-related parenting and child representation of attachment were non-significant in the West African group they were nonetheless in the expected direction and most were modest in size[31]. Thus, there seems to be an overall consistency in findings across ethnic groups indicating that the doll-play narratives of children whose parents displayed increased levels of SR, PPA and Mutuality in the context of play tasks at home, were characterised by increased levels of coherence referring to aspects of parent-child relationships consistent with a secure (rather than insecure or disorganised) attachment to their caregivers. In other words, these children's doll-play discourse integrated clear and organised descriptions of parental care which is consistently responsive, affectionate and positively involved. As discussed earlier, these descriptions may in turn correspond to their mental representations of their own relationships with their parents who have provided them with a past (and current) history of sensitive, responsive, and warm care which was evident in the observation play tasks. Whilst other studies provide strong evidence of the link between these parenting dimensions and coherent vs. insecure and/or disorganised representations of attachment (Oppenheim et al., 1997; Goldwyn et al., 2000) other factors relatively independent of attachment qualities of parental behaviour may also exert a strong influence on children's narratives such as specific features of parent-child discourse (Thompson & Raikes, 2003; Oppenheim et al., 1997). It has been suggested that conversations in which parents make more frequent references to, enquire about, and/or expand more elaborately upon emotions, feelings, thoughts, and/or experiences described by their children, contribute to the development and growth of their psychological understanding about themselves, other people, and how people relate to each other (i.e. their mental representations of attachment relationships or IWM[32]). In turn, this parental ability to provide rich elaborative detail in their accounts about their own and/or their child's experiences can be seen as a manifestation of parental sensitivity particularly salient in school-aged children (Thompson & Raikes, 2003). In light of this, the finding that the association between observed attachment-related parenting and child representation of attachment was non-significant in the West

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[31] Given the smaller sample sizes and the exploratory nature of the ethnic analyses, more emphasis was put into effect sizes rather than p values. For correlation, the effect size corresponds to the correlation coefficient itself (Dancey & Reidy, 2002).

[32] Internal Working Models (IWM).

African group but was significant in both the White British and the Black Afro-Caribbean groups could potentially indicate that there are ethnic differences in the extent to which manifestations of sensitive responding (past and present) incorporate and/or are complemented by the above features of parent-child conversations. In other words, it is possible that for observed attachment-related parenting to strongly correlate with child representation of attachment, the child has to have had experienced a past history of consistent sensitive and affectionate care characterised by physical manifestations of love/tenderness, psychological awareness of the child's needs and an ability to promptly respond to these, and (perhaps more crucially at later stages of development) providing their children with multiple opportunities to acquire a deep understanding of their mental and emotional perspectives through communicating effectively knowledge of their child's own needs, concerns, and feelings. In turn, these aspects of sensitive care and particularly features of sensitive parent-child conversation may be particularly susceptible to ethnic variation.

7.4.3. Correspondence between observed child behaviour and child attachment representation per ethnic group

Results of correlations between observed child behaviour and doll-play representation of attachment per ethnic group indicated that none of the observation and representation child constructs were significantly associated in the White British group, although all correlations (but one[33]) were in the expected direction and mostly of modest to moderate sizes. Only in the West African group was there a strong and positive association between observed Child Negative Behaviour and doll-play representation of attachment insecurity and disorganisation. In both the West African and the Black Afro-Caribbean groups observed Child Social Responsiveness positively correlated with coherence of attachment representation. In the Black Afro-Caribbean group a negative correlation was also obtained between CSR and insecure representation of attachment.

Lack of significant association between observed child behaviour and representation of attachment in the White British group could be a direct result of lack of power to detect significant findings (Miles & Shevlin, 2005). However, significant associations were found in the Black Afro-Caribbean group, which is of a similar sample size to that of the White British group.

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[33]I.e. the positive (but non-significant) correlation between CNB and coherence of attachment representation (see Table 34a)

Taking into consideration the size and direction of correlations obtained, overall findings in the White British group were nonetheless consistent with the pattern of correlations found in both the West African and the Black Afro-Caribbean groups. That is, across ethnic groups a consistent pattern emerged indicating that positive aspects of observed child behaviour positively correlated with coherent representation of attachment, whereas observed child negative behaviour positively correlated with insecurity and disorganisation of attachment. As discussed earlier, these outcomes seem to replicate findings of other studies (Warren et al., 1996; Oppenheim et al., 1997) thus reinforcing the suggestion that children's narratives that make coherent references to positive feelings, thoughts and/or experiences of their relationships with their caregivers are more likely to exhibit patterns of interaction that are congruent with attachment security (e.g. displaying increased social responsiveness to their parents), whereas descriptions of attachment relationships that are negative, rejecting, and/or chaotic are in turn associated with increased displays of maladaptive behaviour such as disruptiveness and negative affect. Furthermore, previous findings are also extended here as these links seemed to have been confirmed in two at risk minority ethnic groups: West-African and Black Afro-Caribbean families.

Inconsistent with the pattern of correlations above was the positive correlation (although non-significant and modest in size) between Child Negative Behaviour and coherence of attachment representation found in the White British group only. This outcome seems paradoxical especially if taking into account that in this same group, a positive (non-significant) correlation of .21 was also obtained between CNB and disorganised representation of attachment. Although these findings are limited due to the modest effect sizes and such small numbers of children in the White British group, they still may be of some relevance. These associations could be indicative of the extent to which behavioural disruptiveness, disorganised representation of attachment relationships, and the ability to coherently process emotional/relational themes during play tasks can in fact coexist. Findings by von Klitzing et al (2000) can help to illustrate this point. In their study, although significant correlations between number of aggressive themes in pre-school children's MSSB[34] narratives and both parent and teacher ratings of behaviour problems were found, higher levels of behaviour problems were identified in those children whose stories were consistently aggressive and incoherent comparative to children whose stories were aggressive but coherent. Thus, although doll-play narratives

[34] MacArthur Story Stem Battery (MSSB).

that are dominated by chaotic, aggressive, and unresolved themes are used to index disorganised representation of attachment and are known to correlate with behavioural problems, narratives in which there is a predominant and coherent use of aggressive and/or destructive themes, rather than characterised by chaotic and/or unresolved content may also be a marker of a disorganised IWM. In the case of the representational measure used in this study one of the key themes for indexing disorganisation was frightened behaviour (i.e. fear of the parent) (see Appendix J1) – clearly, a child can present a coherent story in which frightened behaviour is the predominant theme.

Thus, as suggested by von Klitzing et al (2000) children whose narratives are both aggressive/emotionally negative and incoherent may be at higher risk for emotional and behavioural dysregulation (i.e. aspects often associated with full blown disorganised attachments), whereas the risk is lower for those children who are able to coherently process negative emotions/feelings/thoughts when describing dysfunctional aspects of attachment relationships such as feeling afraid of their parents (i.e. also a typical marker for (D) behaviour). In fact, different levels of risk have been associated with different subtypes of disorganised attachments in non-clinical samples of school-aged children (Moss, Chantal & Dubois-Comtois, 2004). In light of this, it could be that aspects of disorganisation and coherence in White British children's narratives may indicate the extent to which these children are at relatively low risk for serious emotional and behavioural dysregulation. This is further supported given that although presenting significantly higher levels of externalising behaviour in this study (see Table 24 above), White British children together with children in other ethnic groups were nonetheless exhibiting relatively low levels of baseline problem behaviour.

7.4.4. Intervention effect on observed attachment-related parenting per ethnic group (intention to treat)

Lack of power to perform analyses per ethnicity could explain why findings of follow-up change in attachment-related parenting per ethnic group were non-significant. Nevertheless, inspection of effect sizes (see Table 35 above) indicated that for all assigned cases there were overall moderate improvements in these parenting dimensions following the intervention. Specifically, there were moderate to large increases in levels of Sensitive Responding and Mutuality in all ethnic groups, whereas small increases in Parent Positive Affect took place in both the West African and the Black Afro-Caribbean groups but moderately decreased in the White British group.

Findings suggest that in a UK based at risk community sample of multi-ethnic families the intervention was effective in bringing about overall enduring change in aspects of parenting that research has consistently linked with the development and maintenance of secure attachments, as well as with optimal child behaviour outcomes. This evidence extends other research on the effectiveness of this type of intervention in increasing positive aspects of parenting behaviour (such as overall levels of warmth and involvement) across a wide range of ethnic groups in a series of preventive trials targeting North American at risk community samples (Webster-Stratton et al., 2001, Reid et al., 2001, Reid et al., 2004).

These findings also suggest that the parenting programme on offer in the present study was indeed highly sensitive at the cultural level. Core components of this intervention deal specifically with the importance of meeting the needs of parents of varied ethnicity through adoption of a collaborative rather than instructive approach which is respectful of parent's own culture and beliefs, and adapting elements of training in a way that is more culturally relevant for parents and their children (e.g. having parent-child dyads from different ethnic groups depicted in videotaped scenes showing appropriate and inadequate ways of handling child's disruptive behaviour) (Scott et al., 2005a).

Also attesting for the effectiveness of the intervention is the extent to which parents of different ethnicity experienced the parenting programme as relevant and helpful to their needs (and thus more likely to effectively lead to change). As reported by Scott et al (2005a) this was evidenced by the overall high rates of enrolment across all ethnic backgrounds, as well as the high proportion of parents in all ethnic groups who reported satisfaction with the programme.

7.5. Summary

This study proposed to develop a measure of attachment-related parenting observable in everyday situations such as play, in families of school-aged children. Assessment of Attachment Theory derived concepts such as Sensitive Responding and Mutuality was conducted with an at risk sample of 86 parent-child dyads randomly assigned to intervention and control groups prior to the administration of a social learning based parenting programme. Main findings of the study concerned (1) the acceptable levels of reliability and stability for the newly developed coding scheme and the establishment of its factorial, convergent and divergent validity, (2) the conceptual overlap between attachment-related parenting and social learning based measures of parental attending, and the distinction between attachment-based parenting and event-based directives, (3) the association between observed attachment-related parenting and a doll-play measure of attachment representation, and (4) the enduring effectiveness of the social learning based parenting programme in improving observed Sensitive Responding. The intervention was also effective in bringing about change across ethnic groups although there was significant ethnic variation in attachment-related parenting at baseline.

7.6. Study limitations and recommendations for future research

The limitations of the present study were (1) sample selection, representativeness, and size, (2) operationalisation of attachment-related parenting in school-aged children, (3) use of direct observation as a measurement procedure, (4) inability to link change in attachment-related parenting with change in child outcomes, and (5) cultural sensitivity of the attachment-based observational measure. These limitations will be further discussed and recommendations for future research will also be provided.

7.6.1. Sample selection, representativeness, and size

The sample for this study was randomly selected from the larger PALS (Scott et al., 2005a) observational data set of parent-child dyads. All families that participated in the PALS prevention trial were randomly allocated to an intervention or a control group according to the child's classroom. Thus, it could be that this process of allocation increased the likelihood of group homogeneity. In other words, because children in the same classroom may share more similarities compared to children in different classes

this may have had an impact on the extent to which observation measures detected individual variation in parent and child behaviour. Although statistical control for this potential similarity among groups of children was not performed here, it was nevertheless conducted in a larger investigation including the observational data that constitutes the sample of this study (see Scott et al., 2005a). Main outcomes indicated that the impact of the clustered design was minimal, meaning that nearly all of the variation in observed measures of parent-child relationship quality was at the individual rather than group/classroom level.

Participating families in the PALS trial were targeted as being at risk of social exclusion due to poverty. The geographical area in which the trial took place was Peckham, London Borough of Southwark, the third most multiply disadvantaged of 150 local authorities in England. However, in spite of living under conditions of deprivation there were several indicators that the majority of these families were actually doing well. As reported by Scott et al (2005a) outcomes of the screening procedure and analyses of reported data indicated that even in children that screened positively for antisocial behaviour this was within the normal range, level of reported parental depressive symptomatology was half that of the national average, and overall level of community cohesion was high. Observational data in the present study further confirmed that levels of antisocial behaviour in children were low from the start, and parents also scored minimally in the number of critical remarks towards their children. Therefore, the overall level of risk posed by these families may have been much lower than expected. In turn, this may have affected the extent to which findings of the present study may reflect the type of associations and intervention effects found in research targeting families at high social risk.

In future, interventions aiming at improving attachment-related and social learning based parenting should therefore target multi-problem families in which social risk is not only indexed in terms of the socio-economic conditions characterising the geographical area in which they live. As Scott et al's (2005a) investigation showed geographical targeting is inefficient if trying to reach children and families in need. In other words, being at risk does not necessarily equate to living under conditions of deprivation. Furthermore, by targeting families at high-social risk (including living in poverty but not exclusively) it would be possible to ascertain whether the predicted associations between attachment-related parenting and conduct problems can be

confirmed or not, and whether attachment dimensions add anything to the reduction of problem behaviour over and above social learning based parenting.

In the current study, the primary caregivers that participated in observations of parent-child interaction were mostly the mothers. Therefore, information obtained on parenting outcomes is specific to maternal behaviour. The application of the CARP in studies including both parents may be of particular interest in establishing the extent to which mothers and fathers differ in levels and/or type of attachment-related behaviour, the impact that child gender may have on maternal vs. paternal behaviour, and the extent to which parent-child gender matching moderates the association between attachment-related behaviour and main child outcomes.

Due to the time-consuming nature of coding videotaped parent-child interactions at pre-treatment and follow-up stages, a total sample size of 86 dyads (78 of which provided follow-up data) was obtained. This hindered the ability to use more sophisticated statistical procedures (e.g. Multilevel Modelling to control for clustering effects or the nested structure of the data), perform analyses on interaction effects, as well as limiting the power to conduct analyses on ethnic variation (e.g. comparing effects of intervention on an intention to treat and per protocol basis per ethnic group).

7.6.2. Operationalisation of attachment-related parenting in school-aged children

Being the core feature of this thesis, developing a measure to capture school-age attachment-based behaviour was particularly challenging. As described in earlier sections, the development of the CARP involved careful consideration of age-appropriate behaviours that could best serve as objective indicators of attachment-related qualities of parent-child interaction. To this end, main recommendations were followed to ensure that the scheme's coding categories refer to parent and child behaviours indexing attachment-based parent-child interactional quality observable in later stages of development. For its measurement in older children the original conceptualisation of sensitive responding with its heavy reliance on physical proximity to the caregiver and patterns of predictable prompt responsiveness to the infant's distress signals was necessarily broadened. In this study, the construct of Sensitive Responding incorporated aspects more closely tied to the post-infancy concept of the "goal-corrected-partnership" (Greenberg & Speltz, 1988). This conceptualisation

emphasises the parental ability to balance the child's increased need for autonomy with the continuous reliance on an available and nurturing parent particularly when the child experiences some level of distress. Therefore key behavioural patterns reflecting SR in school-aged children were those emphasising promotion of autonomy, sensitive responsiveness and facilitation of the child's actions, use of empathetic emotional language, and maintenance of a child-centred, warm and involved attitude during parent-child interactions (see Appendix F1). In turn, codes of Parent Positive Affect and Mutuality aimed at tapping behaviours crucial in the establishment of emotional regulation (i.e. the reciprocal nature of affective states/responses in parent and child) and the ability to develop joint goals and plans and to co-operate in their execution in a mutual and negotiated manner. These are all aspects that contribute to the child's mental representations of their parents as emotionally accessible to them. In fact, the ethological functions of attachment (i.e. protection from danger) that were pivotal in infancy, become less relevant in mature children who have acquired enhanced capacities for understanding the emotional perspective of their parents, comprehending and accommodating their goals and interests to that of their attachment figures, and communicating more effectively their own needs and wishes (Thompson & Raikes, 2003).

In summary, when defining SR, PPA, and M consideration of the extent to which the concept of attachment security becomes more multifaceted with increasing age (i.e. its behavioural manifestations become highly complex) was necessarily taken into account.

In light of these issues, the CARP not only provides the opportunity for an objective assessment of behaviours that are consistent with core conceptualisations of Attachment Theory (Thompson & Raikes, 2003) but also constitutes a step towards the current necessity of providing an age-appropriate measure of attachment-based parent and child behaviour (O'Connor, 2002). Furthermore, in this study it was also paramount that efforts to validate this measurement procedure were conducted. Initial validation was possible by adopting a multi-method approach including concurrent measures of attachment representation in children. This first step toward method validation was essential, given that this is an aspect of attachment research consistently neglected following almost two decades of method development (Thompson & Raikes, 2003).

In spite of all these strengths, a potential limitation of this procedure is its reliance on capturing attachment-based behaviour as observable in contexts that may not be stressful enough (e.g. play) and thus less likely to activate the attachment system (i.e. the child seeks comfort from attachment figures). As noted by Goldberg et al (1999b) *"to study parental behaviours that are contingent on...emotions apart from fear and sadness...is to study non-attachment-related parental behaviour"* (pg. 505). In other words, it is these authors' contention that attachment behaviour should be confined to the protection function rather than conceptualised as diverse and more general aspects of parent-child relationships such as levels of warmth, acceptance, sensitivity, cooperation, etc (Goldberg et al., 1999a). They acknowledge that lack of differentiation between these general qualities of parenting and protective behaviour (i.e. response to distress) obscures the primary focus of Attachment Theory and makes it potentially undistinguishable from other theoretical approaches.

While it is possible to conceive that children are less likely to experience distress during more positive interactions such as play, it is also understood that linked to the emergence of negative emotions including fear and sadness are situations that do not exclusively rely on high levels of threat posed to the child. In fact, during the observations conducted in this study it not only became clear that each task was successful in eliciting moderate to high levels of distress in the child, but it was also possible to clearly identify when children reacted to the source of distress (e.g. parental insensitive, over-intrusive, and/or uninvolved behaviour) in a fearful (e.g. withdrawing from social interaction with their parents) and/or sad (e.g. visibly upset, verbalising how unhappy they felt, etc) manner. As discussed by Goldberg et al (1999a; 1999b) fear and sadness are the key emotions that activate the attachment system: the former arising out of an anticipated threat to the child's well being, whereas the latter arises out of loss. However, their discussion was centred on protective behaviour in response to fear and sadness in infancy.

Thus, the challenging task in this study was to define and measure what in middle childhood are potential developmental equivalents of protective (i.e. sensitive) behaviour in response to the child's emotional and/or physical needs but in contexts that do not necessarily equate to those traditionally involved in eliciting high stress-reactions in children (e.g. separation-reunion procedures). In more natural contexts of interaction such as home play, among the children studied here it was possible to observe fearful

behaviour (e.g. vacillating in maintaining social exchange with their parents, incrementing physical distance between parent and child) which often arose in situations where parents exhibited unexpected and/or somewhat contradictory behaviour (e.g. providing inconsistent help, changing mood rapidly, displaying over-intrusiveness coupled with un-involvement, odd changes in tone of voice, etc), whereas sadness in the child (captured via facial expressions, verbalisations, tone of voice, etc) was frequently observed in situations involving lack of sensitivity to child's needs or wishes (e.g. parents taking over the play activity not giving their child a chance), low warmth and absence of positive involvement (e.g. not helping the child in a co-operative, reciprocal way). Parents who scored high on attachment-related behaviour were those who displayed behaviours consistent with an emotionally attuned attitude by acknowledging their child's needs/wishes and by promptly and warmly responding to these. In other words, the "protective function" of observed sensitivity among parents in this study referred to those instances in which they provided comfort and/or assistance in response to their child's feelings of anxiety (e.g. having to struggle with finishing a difficult task like Lego in a short period of time), sadness (e.g. not happy with school-related events), and physical discomfort (e.g. feeling ill, tired, hungry, etc). Furthermore, sensitive parents not only responded positively to their child's distressing signals but also responded to positive signals (e.g. encouraging and praising their child's achievements, reciprocating affectionate behaviour, etc). Contrary to Goldberg et al's (1999a; 1999b) contentions, responsiveness to positive signals could be equally viewed as an important aspect of the "protective function" of sensitive behaviour (e.g. it reinforces the child's perceived sense of competence/efficacy and the expectation that parents are usually comforting and available in any circumstance). Thus, protection is provided not just in terms of assuaging distress but also in promoting the child's sense of control over his/her own life and the ability to face up to new challenges competently.

In light of the considerations above, further efforts at the validation of the CARP as a reliable measure of attachment-related parenting in school-aged children should be conducted. In the present study, a first step was taken to validate this scheme through comparison with other measures of parenting. However, this validity exercise was limited as the parenting measures used are not necessarily tapping behaviours that correspond to core conceptualisations of Attachment Theory. In fact, in this age group there are no valid and reliable measures of attachment (O'Connor, 2002). This is not necessarily due to lack of measurement development but mostly due to few efforts at

method validation (Thompson & Raikes, 2003). Future validation could consist of comparing the CARP with other observational measures that have been proposed for use with this age group, and that are based on the integration of attachment and emotional availability principles (Biringen, 2000). Also, it would be advantageous to investigate the concurrent validity of the CARP with a recent middle childhood observational measure of attachment qualities of parent-child interaction (responsiveness, positive affect and dyadic collaboration), which has been used with predominantly minority at risk groups in the USA (Weinfield et al., 2002).

7.6.3. Use of direct observation as a measurement procedure

Of the many strengths inherent in using direct observation in the assessment of parent-child interaction quality is the provision of a more objective view on how parents relate to and interact with their children. This greater objectivity is due to the fact that unlike reported data that provide insider information (e.g. maternal perceptions of behaviour) and thus more likely to be influenced by personal judgements/impressions, observations provide an outsider perspective as trained observers, unaware of individual characteristics of the dyad, sample the actual occurrences of targeted behaviours. As illustrated by the type of observational schemes used in this study, the range of behaviours that can be measured using this method is also impressive, ranging from global aspects of interactional quality (e.g. warmth, sensitivity) to detailed accounts of the frequency of specified behaviours (e.g. commands, criticism) to behavioural contingencies (e.g. praise/acknowledgement contingent on compliance) (Aspland & Gardner, 2003; Dowdney, 1987; Mills et al., 1996).

However, despite the clear benefits of using direct observation in the assessment of parent-child interactional quality, it is necessary to point out potential limitations associated with the use of this procedure. Namely, the validity of observational data could be affected in terms of the context-specificity of observations. That is, because what is observed is the behaviour of an individual in a particular situation (i.e. task and setting) with a specified duration and in a particular moment in time, any variations in one or more of these aspects can affect the type of information obtained.

In terms of the setting, the observations in this study were conducted in the parental home. This reduces the artificiality of the setting and results are therefore more representative of natural behaviour occurring on a daily basis (i.e. greater generalisability). However, home observation introduced between-subject variance as certain aspects of the environment were more difficult to control. Particularly, presence of other family members during the observation period may have affected the dynamics of parent-child interaction. This may have been even more accentuated when other relatives (e.g. younger siblings) got involved in the tasks, as alternative arrangements were not available. Thus, type, frequency, and/or intensity of behaviours observed may have been affected by the number of people present during and/or involved in the interaction (Arney, 2004; Aspland, 2001; Gardner, 1997). However, this source of variability in the data is tolerable when weighted against the benefits of observing parent-child behaviour in their natural setting.

Structured tasks were used in this study. Imposing structure during observations promotes comparability within and between participants (i.e. parent and child perform similar tasks designed to elicit the same types of behaviours of interest) and can increase reliability (i.e. variation in situational influences is decreased). However, up to this point evidence is limited on the extent to which structured observations are representative of behaviour occurring in normal (i.e. unstructured) daily life circumstances (Gardner, 2000).

Duration of the observation tasks was relatively brief and conducted on a single occasion in each phase. This was not only necessary for keeping the home visits as unobtrusive to families as possible but also to allow for a manageable data set to be acquired for coding purposes. However, limiting the duration and number of observations may reduce the generalisability of the data. Behaviour observed during shorter periods may differ from observations of longer duration where families are given more time to habituate with the procedures. However, there are studies that do not confirm this view (Patterson, 1982; Aspland, 2001). Also, in comparison to single observations carried out at each point in time (as in the current study) repeated measurements at each phase may provide a more representative estimate of the true underlying base-rate. Multiple visits can also increase rapport between observer and participants leading to potential reduction of reactivity effects (especially in the initial phases of the study), as well as providing the observer with clearer information on

consistency of parent and child behaviour in the short and/or long-term. Opportunities to observe less frequently occurring behaviours are also increased (Gardner, 2000; Arney, 2004). However, repeated measurement at each phase was not viable in the present study as demands placed upon the families had to necessarily be limited. Furthermore, evidence from studies in which similar tasks were used suggests that there are no dramatic differences between behaviour observed once or repeatedly at each phase (see Kniskern, Robinson, & Mitchell, 1983).

Although not possible to quantify the potential effect of observer bias on the results of this study, several steps were taken to reduce this difficulty to a minimum. The observer was blind to both treatment condition and time point. This greatly reduces the potential impact of expectancy effects (i.e. anticipation of what behaviours are expected to change), given that the observer was aware of parental behaviour that was targeted for change by the parenting programme. Furthermore, the observer had no prior knowledge of personal circumstances of each family. The observer was not in any way involved in conducting home visits for the videotaping of parent-child interactions or in the collection of data through other means (e.g. parental and teacher questionnaires, home interviews, etc). Also, each observation that corresponded to the same parent-child pair was coded at least 3 to 4 weeks after the previous one. This was to minimise the possibility that (1) certain observation features that could potentially de-blind the coder to the time point were easily remembered and recognised (e.g. awareness as to whether the child was older or younger than when first observed) and (2) the scores initially given to a dyad were also remembered thus leading to potential contamination of the scoring of the same dyad when observed second time around. However, in spite of these efforts it is possible that on certain occasions during the coding process comments by the parent and/or child led to the identification of the observation phase.

In summary, although there are some limitations attached to the use of observational techniques, the benefits of including such methods in studies of parent-child interaction and/or as part of experimental investigations are still numerous. Among its several strengths, observational data has not only been shown to predict child outcomes above and beyond the variance predicted by maternal or interviewer report (Weinfield et al., 2002), but also to uniquely detect change in parent and child behaviour compared to report data (interview and questionnaire) (Scott et al., 2005a). However, in the absence of a gold standard measure of parenting, research comparing different measurement

methods is crucial (Dishion et al., 1996). As in this study, a multi-method approach to studying parental behaviour may yield the best quality data. Recent evidence suggests that observations and self-reports yield different types of information that are crucial for the prediction of problem behaviour in children (Arney, 2004). Thus, observations and reports should be used in conjunction in future evaluations of interventions. Furthermore, observations should also cover parent as well as child outcomes and particularly focus on assessment of parent-child interaction in middle childhood, a developmental period in which observational research has not been systematically conducted compared to other age groups (Weinfield et al,. 2002; Scott et al., 2005a).

7.6.4. Inability to link change in attachment-related parenting with change in child outcomes

One of the main aims of the present investigation was to establish the effectiveness of a social learning based parenting programme in improving attachment-related parenting. This was achieved as significant improvement in Sensitive Responding was detected at follow-up. Thus, an Attachment Theory derived concept (SR) that was not directly targeted for treatment by an intervention based on social learning principles was nevertheless impacted by it. As discussed earlier, this may indicate the potential interdependence between the attachment and the parent management/socialisation domains (Greenberg et al., 1993).

Notwithstanding the heuristic value of these findings in terms of their (cross)theoretical and practical implications, the question of whether improvement in attachment-based parenting impacted not only child behaviour, but also the child's representation of attachment, remains unanswered. Correlational analyses at pre-treatment indicated that indices of attachment-based parenting not only associated as expected with observed child behaviour but also with doll-play measures of attachment representation. These findings mirror outcomes from many other studies linking attachment dimensions of parental behaviour and measures of child social and emotional functioning (Cassidy & Shaver, 1999; Eisenberg et al., 2001a; Karavasilis et al., 2003). However, only through experimental manipulation of these variables causal conclusions regarding attachment-based parenting and child outcome can be drawn. To claim that the CARP is indeed measuring dimensions of parenting consistent with core conceptualisations of Attachment Theory, a further step towards its validation would be to establish whether in the context of an intervention, improvement in the behaviours that the CARP

purports to measure is in fact associated with improvements in child behaviour and representations of attachment. In the present investigation it was not possible to determine whether improved sensitivity at follow-up was associated with improvements in child observational and representational outcomes. Main reasons for this limitation include 1) inability to detect significant change in observed child outcomes following the intervention, and 2) analyses of change in child outcomes other than observation being beyond the scope of this investigation.

Future experiments testing these potential connections may be crucial in determining whether in school-aged children, attachment-related parenting is indeed causally related to observed levels of pro-social and antisocial behaviour as well as mental representations of attachment. This will not only advance the research field on attachment but also on parenting intervention. Attachment research will benefit from experimental investigations given that it has been dominated by studies that are correlational and/or descriptive in nature, although its central premises are defined in causal terms (Ziv, 2005; Bakermans-Kranenburg et al., 2003). Future investigations testing the effect of change in parenting on change in child outcomes will also greatly benefit current knowledge on the effects of parenting programmes. In other words, in spite of numerous studies accounting for the effectiveness of interventions in changing parenting practices and also in leading to reduction of child problem behaviour, experiments establishing a direct link between change in parenting and change in child outcome are still relatively few (Forgatch & DeGarmo, 1999).

Equally important is to conduct further experiments testing the relative contributions of attachment-related and social learning based parenting not only to potential reduction in child oppositional behaviour but also to improvement of positive dimensions of child functioning, including attachment security. In other words, the intervention literature is predominantly geared at establishing which parenting practices are successful in reducing problem behaviour, whereas less attention is paid to what will benefit the child's social and emotional competence. Thus, there is a current need to develop valid and reliable assessments of the child's competence at the social, emotional, and cognitive levels. School-age assessment of these domains is crucial as they refer to the child's abilities to succeed not only in social but also in educational contexts. Intervention efforts to promote the child's readiness for school are likely to be

supported as they are of great value to both policy makers and communities (Greenberg, 2005).

Another consideration concerns the type of samples to whom interventions are provided. Although some studies have indicated that the effectiveness of attachment-based interventions is far greater in families with an over-representation of insecure attachments (thus at higher risk) (Stams et al., 2001), others have found less change among insecure groups following a parenting programme (Routh, Hill, Steele, Elliot, & Dewey, 1995). As discussed earlier, the present sample may not have reached the level of social risk underlying the association between sensitivity and problem behaviour. Furthermore, without information on the attachment status of the children studied, it was not possible to determine the extent to which the latter may have impacted on the effectiveness of the parenting programme. Further experimental research should be conducted with samples at high social risk to ascertain whether hypothesised associations between risk factors, attachment-related and social learning based parenting, and developmental outcomes including insecurity of attachment and conduct problems can be confirmed or not. More importantly, experiments to enhance sensitive responding and effective management skills in multi-problem families would allow the establishment of the extent to which these parenting dimensions may serve as protective factors, buffering the effects of contextual risks and promoting the (re)establishment of secure attachment relationships as well as reducing problem behaviour.

Future experimental research aiming at enhancing attachment-related and social learning based parenting will also benefit from considering parental representations of attachment as a target for change. Although interventions have been effective in enhancing sensitivity purely at the behavioural rather than at the representational level (van Ijzendoorn et al., 2005), it is also true that the effectiveness of parenting programmes may be greatly affected by the extent to which parents have a secure (resolved) or insecure (unresolved) representation of attachment relationships (Routh et al., 1995). Unfortunately, information regarding parental mental representations of attachment was not available in the present investigation so it was not possible to establish the extent to which this might have affected the effectiveness of the parenting programme. Changing mental representations of attachment in the context of a parenting programme can take the form of working with parental perceptions of the child's behaviour and of the way parents respond to it. This helps the parent in

becoming aware of how their responses to their child's actions may be partly replicating their own past relationships with their parental figures rather than being solely a consequence of their child's behaviour (Webster-Stratton & Hooven, 1998). This change in perspective coupled with the learning of new behavioural strategies can be a powerful way in which not only to promote parental sensitivity both at the representational and behavioural levels, but also to more effectively impact on the child's behaviour, as well as his/her own IWM of relationships as consistent, predictable, empathic, and accepting (Webster-Stratton & Hooven, 1998; van Ijzendoorn et al., 2005).

Another crucial recommendation is that future research should take into account the extent to which genetics mediates the association between parenting and child outcome. In the present investigation, assessment of factors highly genetically influenced such as temperament was not conducted. This is a major limitation as it is a known fact that parent and child effects are attributable to the interplay between genetics and environment (Maccoby, 2000). Furthermore, given that the families that were studied are genetically related (i.e. biological parent-child dyads), possible interference of biological relatedness on the effectiveness of the intervention was not possible to determine. In the particular case of attachment-related parenting, although research on the extent to which genetic and (non)shared environmental factors influence sensitive responding is still unclear (O'Connor, Croft, & Steele, 2000; Bokhorst, Bakerman-Kranenburg, Fearon, van Ijzendoorn, Fonagy, & Schuengel, 2003), recent evidence indicates that attachment outcomes (i.e. disorganisation) in children may be mostly affected by nurturing (i.e. environmental) processes through parenting interventions aimed at enhancing parental sensitivity (Juffer et al., 2005). This reinforces the traditional view of parental sensitivity as a determinant of attachment outcomes in children. In future, interventions targeting improvement in attachment-related and social learning based parenting should be offered to samples of varying degrees of genetic relatedness (e.g. biological vs. adoptive parent-child dyads) in order to disentangle the relative contributions of genetic and environmental factors to change in parent and child outcomes. Furthermore, by examining attachment-related parenting in conjunction with social learning based dimensions of parental behaviour interventions could provide much needed information on the extent to which shared and unshared environmental factors may lead to differential parental sensitivity to child's behaviour and how child behaviour might be an outcome of or a contributor to potential co-occurrence of

differential sensitivity and differential social learning based controlling and/or disciplinary behaviour.

7.6.5. Cultural sensitivity of the attachment-based observational measure

In this study assessment of attachment-related and social learning based parenting was conducted on an ethnically diverse sample. This led to the identification of significant mean differences in parenting practices across ethnic groups. Exploratory analyses on the extent to which ethnicity might moderate the association between parenting and child outcomes and the effectiveness of the intervention was also conducted. This focus on ethnicity follows recent evidence suggesting that there are marked ethnic differences in the covariation of parenting (i.e. physical discipline) and child behaviour (i.e. externalising) (Lansford et al., 2005; Deater-Deckard et al., 1996). Although research has often indicated that emphasis on and/or use of specific parenting practices might strongly differ according to parents' ethnic/cultural backgrounds (Rubin, 1998; Lansford, Deater-Deckard, Dodge, Bates, & Pettit, 2004; Stevenson-Hinde, 1998), efforts at the validation of measurement procedures – including observation – on multiple ethnic groups are still scarce (Ispa et al., 2004; Stewart & Bond, 2002; McMahon & Metzler, 1996). Among several recommendations, not possible to follow in the present study, ethnic validation includes examination of the factorial validity of a measure in each of the ethnic groups studied, qualitative analysis of parental cultural beliefs and values regarding optimal caregiving as well as provision of information regarding immigration and acculturation experiences, and ethnicity-matching of parent-child dyads and video-coders (Bernstein et al., 2005; Stewart & Bond, 2002). Furthermore, it may be of great advantage to investigate whether ethnic differences in parenting and child outcome could also be a result of the extent to which there is cultural variation in the language used to classify (and therefore understand) a specific parental behaviour as "sensitive", "warm", or "controlling" and/or a particular child behaviour as "non-compliant", "aggressive", or "(in)securely attached". In fact, other research has suggested that cultural-linguistic effects are potentially accountable for the extent to which various societies differ in the meaning attached to the term "bullying" (Smith, Cowie, Olafsson, & Liefooghe, 2002; Smorti, Menesini & Smith, 2003). The crucial implications of further ethnic validation of observational measures for intervention research are straightforward. Development and refinement of culturally sensitive assessment procedures will allow identification of the main features of parent-

child interaction where cultural variation may be an issue (e.g. are cultural differences in sensitive responding more marked than those found for disciplinary parenting?). This information will consequently inform experimental researchers on how best to tailor their interventions to the needs of each ethnic group studied, as well as being able to use more powerful tools for the detection of change in parent and child outcome, specific to a particular ethnic/cultural group. The increasing appreciation of the diversity of families in the UK (HMSO, 2000; Reynolds, 2003) and the extent to which key assumptions underlying parenting programmes might deeply contrast with varied cultural beliefs (Kazdin, 2005), makes the issue of cultural sensitivity a pressing one in today's research agenda.

7.7. Clinical and policy implications

The CARP was designed as an observational global measure of attachment-based parent-child relationship qualities in school-aged children. By assessing attachment-related parenting and child behaviour in natural settings and during day-to-day activities, the CARP may prove particularly useful in clinical and policy contexts. At the clinical level, several implications can be identified. First, this measure provides a unique opportunity to directly assess parent-child interaction patterns in a fairly accessible, unobtrusive, and concise manner. This is in clear contrast with the attachment-based assessment procedures that have predominantly used highly structured/controlled situations, long assessment periods, and in-depth detailed coding training, all contributing factors to their overall limited application in clinical settings (Rutter & O'Connor, 1999).

Second, by using global ratings on a continuous scale, the CARP also provides a means of quantifying attachment features of the parent-child relationship. This supports the assumption that there might be individual variation in the extent to which parents and children exhibit behaviours consistent with secure/insecure interaction patterns, and that it is this variation rather than an overall encompassing single dimension that better discriminates normally developing from children at high risk of later attachment disorder and/or other psychopathology outcomes (e.g. conduct problems). This information has not been provided by other observational attachment-based measurement systems (e.g. Q-sort procedures) as their coding methods are confined to categorising attachment into discrete sets of patterns (i.e. rather than varying in degree,

attachment (in)security is thought of as corresponding to previously identified categories/concepts) (Rutter, 1995). Therefore, the CARP does not rely on discrete categories that reify the attachment relationship into secure vs. insecure groups and assume these to cause later psychopathology in a linear way. Instead, by contributing information on individual variations in attachment relationships, this measure may provide more sound evidence of early risk and allow for more powerful predictions of socio-emotional and behavioural adjustment over time, all characteristics of a more effective diagnostic tool (Barth et al., 2005; Greenberg, 2005).

Third, the multi-method multi-informant approach was a particularly powerful validation strategy for the CARP, and the overall good validity outcomes obtained are extremely promising. From a research point of view, the call for a multi-method approach not only implies the need to use a more extensive dataset to tackle the complex construct of parenting but also, and perhaps more importantly, the lack of a single gold standard measure for its assessment (Dishion et al., 1996). The CARP was not only validated against report-based measures of parenting but also against doll-play assessments of the child's attachment representations. Convergent and divergent validity outcomes across methods and informants provided strong support for the robustness of the CARP in adequately measuring behaviours that are consistent with core attachment conceptualisations of the parent-child relationship. The use of instruments with demonstrated validity is of extreme importance in clinical settings as professionals have to necessarily face the medical and/or legal liabilities associated with their judgements about the quality of parenting and its effects on children's adjustment (Mrazek et al., 1995). Furthermore, a validated attachment-based observational measure for school-age children constitutes a key step toward the identification through direct observation of the specific behaviour manifestations of attachment-related parenting that in this age group may correspond to the developmental equivalents of sensitivity and responsiveness in infancy and early childhood. This not only offers the possibility of filling the existing gap in attachment-based instrumentation in this age group, but is also a means of acquiring detailed information on parent-child interactional quality independent of more subjective accounts (i.e. self-report data) (O'Connor, 2002; DeKlyen & Speltz, 2001). In specific areas of clinical work such as assessments in suspected cases of child abuse, direct observation of dysfunctional attachment patterns of interaction rather than reliance on parental accounts which can be heavily influenced by defensive responding, may be a particularly useful source of diagnostic information.

Fourth, findings concerning the discriminant validity of the CARP lend support for this measure's capacity to detect changes in parenting following treatment using a theoretical framework other than Attachment Theory. Thus, this is a measure that allows assessment of parenting at the cross-theoretical level. The CARP allows professionals to identify the elements of security found in Attachment Theory and associated therapies, but also to be cognizant of the parenting strategies for negotiating conflict and establishing cooperation that help prevent the emergence and/or maintenance of "coercive cycles of interaction", this being the focus of social learning behaviourally based treatments for child antisocial behaviour. Through the CARP, the assessment and treatment of parent-child relationship difficulties can therefore be made on the basis of more integrated information with deficits in one particular aspect of parenting (e.g. sensitivity) potentially signalling problems in other areas of parent-child relationship quality (e.g. effective discipline). Furthermore, if co-occurring deficits in various areas of parenting are identified, more encompassing treatments can be attained (e.g. for children presenting attachment and/or conduct disorders), with possible positive spillover effects taking place (i.e. treatment of one aspect of parent-child relationship quality producing positive changes in other areas) (Barth et al., 2005; Kerns et al., 2001; Scott, 2003).

At the policy level, this study presents important implications that should also be noted. The first implication concerns the extent to which the use of observational systems like the CARP could aid in the gathering of good quality data to evaluate the efficacy of parenting programmes both at the prevention and intervention levels. So far, interview measures of parenting and of child outcomes (e.g. hyperactivity, conduct problems) have been more widely used in intervention research (Scott et al., 2001a). This is cause for concern given that a) comparative with observational methods, there is currently less information regarding the validity of these report-based methods in predicting child outcome and in detecting change in parenting following interventions, and b) using a single-source approach is no longer regarded as scientifically acceptable because any method is affected by sizable error (Aspland & Gardner, 2003; Kazdin, 2003). Furthermore, in intervention studies where both direct observation and report-based methods (i.e. interviews and/or questionnaires) have been used, findings often indicate that following treatment significant changes in parenting and/or child outcome were only detected through observation (e.g. Scott et al., 2005a; Harris et al., 2003). The clear message here conveyed is that multi-method assessments of parent-child relationship

quality are required if we are to gather data as accurately and precisely as possible on such a multi-faceted and complex construct. This strategy will allow for more effective identification of the most sensitive and accurate measurement of intervention outcomes. Although financially difficult to attain, adoption of a multi-method approach combining observational and report-based assessments may prevent inaccurate or imprecise measurement of parenting. The consequences of such an outcome are far-reaching as it can lead to false conclusions regarding intervention effectiveness. If the demonstrated effectiveness of an intervention is questionable due to poor quality evaluation, future participants may be potentially exposed to ineffective treatments, or denied access to effective treatments. The losses for both targeted families and programme providers that both these scenarios entail can be avoided if considerable resources are put in place in order to meet the best-practice standard of multi-method assessment prior to delivering an intervention (Harris et al., 2003; McMahon & Metzler, 1996; Scott et al., 2005a).

A second policy implication from the present study is that intervention effects may generalise across method and theory. This is illustrated by the finding that a social learning behaviourally based intervention increased Sensitive Responding, a core construct of Attachment Theory (i.e. improvements in one measure/theory translated into improvements in another measure/theory). This information could be of extreme value for interventionists as it provides a cross-theoretical framework for the effective treatment of maladaptive parent-child interaction styles and/or promotion of positive parent-child relationships. Multi-theory evaluations of intervention effectiveness allow identification of a wider range of parental and child behaviours that potentially contribute to the emergence and/or maintenance of deficient parent-child relationships. This information is greatly needed as it remains unclear which specific aspects of parenting crucially mediate changes not only in the quality of parent-child relationships but also in reducing/extinguishing child problem behaviour (Scott, 2002). Following the example of this investigation, future intervention evaluation studies integrating insights of Attachment and Social Learning Theory may prove critical in demonstrating the extent to which a cross-theoretical approach leads to increased effectiveness. Improvements in behaviourally based disciplinary techniques coupled with enhanced sensitivity in parent-child relationships are expected to benefit a variety of child outcomes, from conduct problems, pro-social behaviour to attachment security (Barth et al., 2005; Scott, 2003; Sutton, 2001). Enhancing effectiveness of parenting programmes is particularly relevant in terms of UK policy, where at present there is an increased

governmental concern to prevent youth antisocial behaviour and to reduce social exclusion in areas most at risk (Sutton, Utting, & Farrington, 2004). Although the effectiveness of evidenced-based parenting interventions in reducing problem behaviour is well-established, research also shows that these treatments are less likely to be effective once the child is over 7 years old (Nixon, 2002). The more knowledge-based information we can acquire to improve the effectiveness of interventions that prevent children from developing severe conduct problems from an early age, the less will be the cost for society when facing criminality, psychopathology and a myriad of other problems that often characterise individuals who weren't provided with appropriate treatment during their problematic childhoods (Scott et al., 2001b).

7.8. Conclusion

The main aim of this study was to develop a school-age observational measure of attachment-related parenting – the CARP. This is a measure tapping three constructs consistent with core conceptualisations of Attachment Theory: Sensitive Responding, Positive Affect and Mutuality. These dimensions are observable in the context of everyday situations at home and were operationalised in an age-appropriate manner. The CARP was used as an evaluation tool for the effectiveness of a social learning based parenting programme offered to a community-based at risk multi-ethnic sample of parent-child dyads. Development and refinement of observational measures of social learning based parenting (PBCS) and child behaviour (CGCS) was also conducted. The CARP was found to be reliable, stable and valid. The association between the CARP and the PBCS suggested that attachment-related and social learning conceptualisations of parenting are relatively independent. A multi-method approach was used to investigate the extent to which the CARP associated with observational and report measures of child pro-social and disruptive behaviour as well as with a doll-play measure of attachment representation. The association between these child outcomes and social learning based parenting was also considered. The CARP was sensitive to treatment change indicating that at 6 months follow-up the social learning based parenting programme was effective in increasing Sensitive Responding, with parents having higher attendance to the intervention benefiting more. Thus, an Attachment Theory derived concept – Sensitive Responding – not directly targeted for change was nevertheless impacted by the intervention. This evidence supports the notion that social learning based interventions may add information as to how to improve the parent-child emotional bond/attachment (Scott, 2003a, Webster-Stratton & Hooven, 1998).

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9. Appendices

Appendix A.1. - STRENGTHS AND DIFFICULTIES QUESTIONNAIRE (Parent Version)

For each item please mark the box Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of the child's behaviour over the last six months or this school year.

Child's Name.....

Date of Birth ..... Male/Female

	Not True	**Somewhat True**	**Certainly True**
Considerate of other people's feelings	☐	☐	☐
Restless, overactive, cannot stay still for long.	☐	☐	☐
Often complains of headaches, stomach-aches or sickness	☐	☐	☐
Shares readily with other (food, games, pens, etc).	☐	☐	☐
Often has temper tantrums or hot tempers.	☐	☐	☐
Rather solitary, tends to play alone	☐	☐	☐
Generally obedient, usually does what adults request	☐	☐	☐
Many worries, often seems worried	☐	☐	☐
Helpful if someone is hurt, upset or feeling ill	☐	☐	☐
Constantly fidgeting or squirming	☐	☐	☐
Has at least one good friend	☐	☐	☐
Often fights with other children or bullies them	☐	☐	☐
Often unhappy, down-hearted or tearful	☐	☐	☐
Generally distracted, concentration wanders	☐	☐	☐
Easily distracted, concentration wanders,.	☐	☐	☐
Nervous or clingy in new situations, easily loses confidence	☐	☐	☐
Kind to younger children	☐	☐	☐
Often lies or cheats	☐	☐	☐
Picked on or bullied by other children	☐	☐	☐
Often volunteers to help others (parents, teachers, children)	☐	☐	☐
Thinks things out before acting	☐	☐	☐
Steals from home, school or elsewhere.	☐	☐	☐
Gets on better with adults than with other children	☐	☐	☐
Many fears. Easily scared.	☐	☐	☐
Sees tasks through to the end, good attention span.	☐	☐	☐

Do you have any other comments or concerns?

Please turn over - there are a few more questions on the other side

	Not True	Somewhat True	Certainly True
Good at keeping him/herself occupied	☐	☐	☐
Often does reckless things without thinking of the danger or the consequences	☐	☐	☐
Makes a good first impression but people change their minds about him/her	☐	☐	☐
Keeps friends	☐	☐	☐
Shallow and fast-changing emotions	☐	☐	☐
Too full of him/herself or his/her own abilities	☐	☐	☐
Is usually genuinely sorry if s/he has hurt someone or acted badly	☐	☐	☐
Often uses emotional blackmail to get his/her own way	☐	☐	☐
Fearless in situations that should worry or scare young people of his/her age	☐	☐	☐
Can seem cold-blooded or callous	☐	☐	☐
Keeps promises	☐	☐	☐
Has difficulty trusting others	☐	☐	☐
Genuine in his/her expression of emotions	☐	☐	☐
Usually tries his/her best	☐	☐	☐
Feels bad or guilty when s/he does something wrong	☐	☐	☐
Is concerned about the feelings of others	☐	☐	☐
Does not show his/her feelings or emotions	☐	☐	☐
Is concerned about how well s/he does at school	☐	☐	☐

Overall, do you think that your child has difficulties in one or more of the following areas: Emotions, concentration, behaviour or being able to get on with other people?

No	Yes – minor difficulties	Yes definite difficulties	Yes severe difficulties
☐	☐	☐	☐

If you have answered 'Yes', please answer the following questions about these difficulties:

- **How long have these difficulties been present?**

Less than a month	1-5 months	6-12 months	Over a year
☐	☐	☐	☐

- **Do the difficulties upset or distress your child?**

Not at all	Only a little	Quite a lot	A great deal
☐	☐	☐	☐

- **Do the difficulties interfere with your child's everyday life in the following areas?**

	Not at all	Only a little	Quite a lot	A great deal
HOME LIFE	☐	☐	☐	☐
FRIENDSHIPS	☐	☐	☐	☐
CLASSROOM LEARNING	☐	☐	☐	☐
LEISURE ACTIVITIES	☐	☐	☐	☐

- **Do the difficulties put a burden on you or the family as a whole?**

Not at all	Only a little	Quite a lot	A great deal
☐	☐	☐	☐

Your signature ..... **Date:** .....

Mother/Father / Other (please specify :)

Thank you very much for your help

Appendix A. 2. - STRENGTHS AND DIFFICULTIES QUESTIONNAIRE (Teacher version)

For each item please mark the box Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of the child's behaviour over the last six months or this school year.

Child's Name.....

Date of Birth ..... Male/Female

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	☐	☐	☐
Restless, overactive, cannot stay still for long.	☐	☐	☐
Often complains of headaches, stomach-aches or sickness	☐	☐	☐
Shares readily with other (food, games, pens, etc).	☐	☐	☐
Often has temper tantrums or hot tempers.	☐	☐	☐
Rather solitary, tends to play alone	☐	☐	☐
Generally obedient, usually does what adults request	☐	☐	☐
Many worries, often seems worried	☐	☐	☐
Helpful if someone is hurt, upset or feeling ill	☐	☐	☐
Constantly fidgeting or squirming	☐	☐	☐
Has at least one good friend	☐	☐	☐
Often fights with other children or bullies them	☐	☐	☐
Often unhappy, down-hearted or tearful	☐	☐	☐
Generally distracted, concentration wanders	☐	☐	☐
Easily distracted, concentration wanders,.	☐	☐	☐
Nervous or clingy in new situations, easily loses confidence	☐	☐	☐
Kind to younger children	☐	☐	☐
Often lies or cheats	☐	☐	☐
Picked on or bullied by other children	☐	☐	☐
Often volunteers to help others (parents, teachers, children)	☐	☐	☐
Thinks things out before acting	☐	☐	☐
Steals from home, school or elsewhere.	☐	☐	☐
Gets on better with adults than with other children	☐	☐	☐
Many fears. Easily scared.	☐	☐	☐
Sees tasks through to the end, good attention span.	☐	☐	☐

Does this child have any special needs? Yes/No
Please describe child's special needs: .....
.....
Please indicate Special Needs stage 1 2 3

Please turn over - there are a few more questions on the other side

Overall, do you think that this child has difficulties in one or more of the following areas: Emotions, concentration, behaviour or being able to get on with other people?

No	Yes – minor difficulties	Yes definite difficulties	Yes severe difficulties
☐	☐	☐	☐

If you have answered 'Yes', please answer the following questions about these difficulties:

- **How long have these difficulties been present?**

Less than a month	1-5 months	6-12 months	Over a year
☐	☐	☐	☐

- **Do the difficulties upset or distress the child?**

Not at all	Only a little	Quite a lot	A great deal
☐	☐	☐	☐

- **Do the difficulties interfere with the child's everyday life in the following areas?**

	Not at all	Only a little	Quite a lot	A great deal
PEER RELATIONSHIPS	☐	☐	☐	☐
CLASSROOM LEARNING	☐	☐	☐	☐

- **Do the difficulties put a burden on you or the class as a whole?**

Not at all	Only a little	Quite a lot	A great deal
☐	☐	☐	☐

Your signature ..... **Date:** .....

Class Teacher/Head of Year/Other (please specify :)

Thank you very much for your help

Appendix B. 1.

PALS
demographic
information
questionnaire

PALS

PACS DEMOGRAPHIC - FIRST CONTACT

NB: *For all codings -* *Not applicable/no opportunity to occur* = *8*
No information/don't know/refuse to answer = *9*

CHILD'S ID NUMBER

Child's Name .....

Name of Interviewee.....

Relationship to child .....

Name of Interviewer .....

Date of Interview .....

CHILD DATA

1.1 **Date of Birth** __/__/

Age in years and months Years Months

Address .....

.....

.....

Postcode .....

Telephone .....

1.1(a) We'll be following the progress of (child) for more than a year and would like to keep in touch with your family. Can we have the name, address and telephone number of two people, e.g. close relative or family friend who will always know how to contact you? This is in case you move, go away for a while or change your telephone number.

1. **Name of person to contact**: .....

Relationship to child: .....

Address : .....

Telephone:.....

2. Name of second contact person: .....

Relationship to child: .....

Address: .....

Telephone: .....

1.2 **CHILD'S GP:** **NAME** Dr.....

ADDRESS .....

.....

.....

TELEPHONE .....

1.3 **Do you have the same doctor?**	NO	0
	YES	1

(If no) **what is the name and address/number of your doctor?**

.....

.....

.....

FAMILY STRUCTURE

2.0. I am going to ask you a few questions about who normally lives in your household.
Who usually lives in your flat/house?
Do you have any children who aren't living at home?

First and Second name	Relationship to child (refer to codes)	Sex (M/F) 0 = Female 1 = Male	Age in years *(DK=999)*

Coding

Biological mother	1	Foster mother	7	Sibling (step)	15
Biological father	2	Foster father	10	Other	16
Step mother	3	Other relative	11	Partner	17
Step father	4	Friend	12	Grandmother	18
Adoptive mother	5	Sibling (full)	13	Grandfather	19
Adoptive father	6	Sibling (half)	14		

2.1 If parents are separated: **Do you currently have a partner? NB Always code this question but do not ask if you already have the information.**

No	0
Yes, lives with mum and X	1
Yes, lives elsewhere but has regular contact with X	2
Yes, lives elsewhere but has little or no contact with X	3
Not applicable	8

2.2 *Screen if necessary:* **you mentioned X's dad.....has there been anyone else since you separated?**

2.3 **Have any partners lived with you for more than one month since X's dad left?**

(NB: calculate number of live in partners since child was born)
(NB: NA = 888, DK = 999.)

Number of live in partners ☐

2.4 **If parents are separated: How often has X seen his/her natural father in the last year?**

1=1xweekly or more often
2=less than weekly but more than once a month
3=monthly
4=less than monthly but more than once a year
5=no contact for one year or more
6=no contact since birth
8=not applicable

☐

Separations

(Screen: Have you and X ever been apart?) (If yes)

2.5 **How many times has X ever been away from you for more than one month? (if more than one month) And with whom?** (Note it for the following questions)
(If NA = 888, if DK = 999)

Number of times ☐

Foster Care/ Institutional Care

2.6 a) **Has X ever been looked after by foster parents or in a children's home?**
(If NA = 888, if DK = 999)

Number of times ☐

(If yes: specify children's home or foster parents) .....

(If no skip to 3.0)

b) **Was this due to X's difficult behaviour?**

Definitely due to behaviour	1
Mainly due to behaviour	2
Somewhat due to behaviour	3
Mainly not due to behaviour	4
Definitely not due to behaviour	5
Not applicable	8

c) **How long was he been away from you in his/her life?** (to the nearest month)
(If NA = 888, if DK = 999)

Months in foster care or children's home ☐

Please describe.....

d) **Were social services involved?**

No	0
Yes	1
NA	8
DK	9

e) **Has it cost you anything because X was being looked after by foster parents or in a children's home? E.g. cab fares.**
(If NA = 888, if DK = 999)

£ per month ☐

Now I am going to ask you a few questions about your housing situation

HOUSING

3.0 **Do you rent your flat/house or do you own it?**

Own House	0
Own Flat	1
Privately Rented House	2
Privately Rented Flat	3
Council House/Housing Association House	4
Council Flat/ Housing Association Flat	5
Temporary Accommodation/Squat	6
Other	7
Not Applicable	8
Not Known	9

ROOMS

3.1 **How many rooms are there in your flat/house (that's ALL rooms, not just bedrooms)?**
(If NA = 888, if DK = 999)

Total number of rooms ☐

3.2 **Do you have anywhere for the children to play outside, like a garden or a yard (Where X is allowed to play)?**

OUTSIDE PLAY AREA	
Garden	0
Yard	1
Communal Space	2
Landing of Flats	3
Other (please specify)	4
None	5
Not Applicable	8
Not known	9

PREGNANCY AND NEONATAL HISTORY

Interviewer: **I'm now going to ask you some questions about X right from the beginning of his/her life, starting with when he/she was born, then moving onto his/her development and schooling.**

DELIVERY

4.0 **How many weeks pregnant were you when s/he was born?**
(If NA = 888, if DK = 999)

Weeks ☐

4.1 **Can you remember how much X weighed when s/he was born?**

Over 6 to 7 1/2 lb (2.72 - 3.4 kg)	0
Over 4 1/2 1b less than 6 lb (2.04 - less than 2.72kg)	1
Over 3 1b less than 4 1/2 lb (1.37 - less than 2.04kg)	2
Less than 3 lb (less than 1.37kg)	3
Over 7 1/2 less than 10 lb (3.4 - less than 4.5kg)	4
Over 10 lb (Over 4.5 kg)	5
Not known	9

4.2 **(Screen) Did X have special treatment after s/he was born? (if yes please describe)**

.....

4.3 **Was X admitted to a special care baby unit?**

NO	0
YES	1

(If yes, give details) .....

Mother Demographics

Now I am going to ask you some questions about your background.

5.0 **Where were you born?**

PLACE OF BIRTH	
U.K.	0
Europe	1
Ireland	2
West Indies	3
Africa	4
Bangladesh	5
Pakistan	6
India	7
Cyprus, Turkey, Greece	10
N.Z., Aus., Can., USA, SA	11
Other	12
Mother DK	8
Interviewer DK	9

5.1 **Interviewer Coding for ethnicity/race/colour**

Black African	0
White/ North European	1
Mediterranean (eg Turkish, Greek, Italian)	2
Black Afro - Caribbean	3
Indian subcontinent	4
SE Asian/Chinese	5
Mixed parentage	6
Other (Please describe)	7
.....	
Not Applicable	8
Not known	9

At what age did you finish you education or leave school?

5.2 EDUCATION

Left school before 13	0
Left school at 13 - 16	1
Further secondary 16 - 18	2
Secretarial or technical qualification	3
Teacher Training	4
Univ. course not completed	5
Professional Qualification without degree (eg SRN)	6
Degree	7
Not Applicable	8
Not known	9
Other	10

Now I am going to ask you a few questions about employment

5.3a) **Do you have a job as well as looking after the children?**

NO	0
YES	1
NA	8
DK	9

(*describe - paid type of work, position and full or part time*)

.....

.....

b) **When did you last have a job?**

Number of months since last worked ☐

(NB: NA = 888, DK = 999)

c) **Could you tell me about your last job?** *(type of work, position and full/part time)*

.....
.....

d) ***If unemployed code as below***

Unemployed and looking for work	1
Not looking for work	2

e) **(if employed) How many hours do you work per week?**

Average number of hours per week ☐

(NB: NA = 888, DK = 999)

6. CHILD CARE

How many hours a week is X looked after school and at weekends by someone **other than you**?

Hours per week ☐

And with whom? ☐

Parent (other)	1
Aunt/uncle	2
Grandparent	3
Sibling	4
Family friend	5
Child-minder	6
After school club	7
Other	10
Not applicable	8
Not known	9

NATURAL FATHER

Now I am going to ask you some questions about X's natural father

7.0 **Where was he born?**

U.K.	0
Europe	1
Ireland	2
West Indies	3
Africa	4
Bangladesh	5
Pakistan	6
India	7
Cyprus, Turkey, Greece	10
NZ, Aus, Can, USA, SA	11
Other	12
Mother DK	8
Interviewer DK	9

7.0 b) **Could you tell me his ethnicity?**
NB (X's <u>natural father</u> not stepdad)

Black African	0
White/North European	1
Mediterranean (Turkish, Greek, Italian)	2
Black Afro-Caribbean	3
Indian subcontinent	4
SE Asian/Chinese	5
Mixed Parentage	6
Other (Please specify)	7

Not applicable	8
Not known	9

7.0 c) **<u>Rate yourself</u> X's (child's) ethnicity?**
(DO NOT ASK)

Black African	0
White/North European	1
Mediterranean (Turkish, Greek, Italian)	2
Black Afro-Caribbean	3
Indian subcontinent	4
SE Asian/Chinese	5
Mixed Parentage	6
Other (Please specify)	7

Not applicable	8
Not known	9

7.1 NATURAL FATHER'S EDUCATION

Left school before 13	0
Left school before 13 -16	1
Further Secondary 16 -18	2
Secretarial or technical training	3
Teacher Training	4
Univ. course not completed	5
Professional qualification without degree	6
Degree	7
Other	10
Mother DK	8
Interviewer DK	9

Employment of Mother's <u>live-in partner</u> *(If no partner go to benefits/finance section)*

8.1 <u>Interviewer code only:</u>

Child's father	1
Other male partner	2
Other female partner	3
No partner	4

12.2a) **Does your partner have a paid job?**

No	0
Yes	1
DK	9

b) (if yes) **What does s/he do?** - *(type of work, position and full/part)* .....

.....

c) **When did s/he last have a job?**

Number of months since last worked ☐
(NB: NA as 888, DK = 999)

d) **Could you tell me about his/her last job?** *(n/a if is currently employed)*
(*type of work, position and full or part time*)

.....

Natural father's employment *NB Only ask if parents are separated.*

13.a) **Do you know if X's natural father has a paid job?**

NO	0
Yes	1
NA	8
DK	9

13.b **If yes: What does he do?** (Type of work, position and full/part).....

.....

14.1 **Are your children entitled to free school meals?**

NO	0
YES	1
DK	9

14.2 **Do you own a car?**
If no: Do you have access to a car

NO	0
YES	1

14.3 **Could you tell me what is your usual total household income per week**
(show paper 3 and ask interviewee to identify which letter corresponds to their income band)

A. under £60
B. £61 - £100
C. £101 - £175
D. £176 - £275
E. £ 276 - £325
F. £326 - £450
G. £ 451 - £600
H. More than £600

THANK YOU VERY MUCH FOR YOUR CO-OPERATION WE GREATLY APPRECIATE YOU HELPING US WITH OUR RESEARCH

A	UNDER £60
B	£61 - £100
C	£101 - £175
D	£176 - £275
E	£276 - £325
F	£326 - £450
G	£451 - £600
H	MORE THAN £600

Appendix C.1. - HOW I FEEL ABOUT BEING A PARENT [PSOC]

This is a questionnaire about your attitudes and feelings that relate to parenting. Please indicate how strongly you agree/disagree with the following statements. There are no right or wrong answers.

(Circle one number in each row)

	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
The problems of taking care of a child are easy to fix once you know how your actions affect your child - an understanding I have acquired.	1	2	3	4	5
Even though being a parent can be rewarding, I am frustrated now while my child is at his/her present age.	1	2	3	4	5
I do not know why it is, but sometimes when I'm supposed to be in control, I feel like the one being manipulated.	1	2	3	4	5
Being a parent is manageable and any problems are easily solved.	1	2	3	4	5
Being a parent makes me tense and anxious.	1	2	3	4	5
I would make a fine model for a new mother/father to follow in order to learn what s/he would need to know to be a good parent.	1	2	3	4	5
I go to bed the same way that I wake up in the morning: feeling like I have not achieved very much.	1	2	3	4	5
My mother/father was better prepared to be a good mother/father than I am.	1	2	3	4	5
A difficult problem in being a parent is not knowing whether you're doing a good job or a bad one.	1	2	3	4	5
I meet my own personal expectations for expertise in caring for my child.	1	2	3	4	5
If anyone can find the answer to what is troubling my child, I am the one.	1	2	3	4	5
Sometimes I feel like I'm not getting anything	1	2	3	4	5
Considering how long I've been a mother/ father, I feel thoroughly familiar with this role.	1	2	3	4	5
My talents and interests are in other areas - not being a parent.	1	2	3	4	5
If being a mother/father of a child were only more interesting, I would be better motivated to do a better job as a parent.	1	2	3	4	5
I honestly believe I have all the skills necessary to be a good mother/father to my child.	1	2	3	4	5
Being a good mother/father is a reward in itself.	1	2	3	4	5

Appendix D. 1. - MY HEALTH AND WELLBEING [GHQ]

Please read this carefully:

We would like to know if you have had any medical complaints, and how your health has been in general, over the **past few weeks**. Please answer **ALL** the questions simply by circling the answer which you think most nearly applies to you. Remember that we want to know about present and recent complaints, not those that you had in the past. It is important that you try to answer **ALL** the questions. Thank you very much for your co-operation.

In the past few weeks have you:

(Circle one answer in each row)

1. lost much sleep over worry?	Not at all	No more than usual	Rather more than usual	Much more than usual
2. felt constantly under strain?	Not at all	No more than usual	Rather more than usual	Much more than usual
3. been able to concentrate on what you are doing?	Better than usual	Same as usual	Less than usual	Much less than usual
4. felt you are playing a useful part in things?	More so than usual	Same as usual	Less useful than usual	Much less than usual
5. been able to face up to your problems?	More so than usual	Same as usual	Less able than usual	Much less able
6. felt capable of making decisions about things?	More so than usual	Same as usual	Less capable	Much less capable
7. felt that you couldn't overcome your difficulties	Not at all	No more than usual	Rather more than usual	Much more than usual
8. been feeling reasonably happy all things considered?	More so than usual	About same as usual	Less so than usual	Much less than usual
9. been able to enjoy your day to day activities?	More so than usual	Same as usual	Less so than usual	Much less than usual
10. been feeling unhappy and depressed?	Not at all	No more than usual	Rather more than usual	Much more than usual
11. been losing confidence in yourself?	Not at all	No more than usual	Rather more than usual	Much more than usual
12. been thinking of yourself as a worthless person?	Not at all	No more than usual	Rather more than usual	Much more than usual

APPENDIX E. 1.

PALS
Interview
[PACS]

Stage I

In order to be sensitive to change, the period under question is the last month.
Severity rating for an episode which occurs once a month should be included so long as it was not due to exceptional or atypical provoking circumstances.

SECTION I.: READING STRATEGIES

I would like to ask you some questions about how your child's reading's been going.

1. **Have you managed to read with your child this week?**
   YES/NO

   a. **When was the last time?**

.....

   b. **How long was it for?**

Mins.

   c. **Is that a typical amount of time?**
   YES/NO

   [If not, get the typical amount]

   d. **What is the usual amount of time you read with your child per day?**
   [score in minutes to maximum of 99] ☐

   e. **How many times did you read with your child over the last week?**

   [no of days = 0-7, 8 = N/A, 9 = No info] ☐

   [calculate total minutes per week) ☐ X = ☐ ☐

   Mins *days* *Total*
   mins. per week

2. What things did you do to help (child) settle down to read a book? Describe a specific example in the last few days when you felt your reading with (child) went well. (Probe for details if example is 'thin'). Could you take me through the last time the two of you were reading together? Have you got a <u>strategy</u> you might be using? For instance, where were you sitting? What else was going on in the room? Who else was in the room? And what about the TV?

<u>Setting Scene for reading</u>

poor setting of scene: 0 - 1 strategies	1
some degree of scene setting: 2- 3 strategies	2
good/sensitive scene setting: 4 or more strategies	3

Count practical steps such as:

X *setting specific time aside*
X *making sure there is a quiet place for X to read*
X *making self (parent) free from other demands*
$ *reducing distractions, such as TV*
$ *creating positive rapport or feelings with child, e.g. give a hug*
$ *choosing time when child is likely to be receptive*
$ *book orientation e.g. talking about book (for example school reader) or experience related to book <u>before</u> reading it.*

3.Can you tell me exactly what you do if X is reading to you and he/she gets stuck on a word?

[probe for examples]

(a)<u>Cognitive strategies</u>

no strategy	0
one strategy/some attempt	1
two or more/good usage of different strategies	2

$ *asking child to read on or look at pictures (meaning cues)*
$ *asking child to use text cues such as first letter, word ending, shape of word*
$ *giving child letter - sound that begins unfamiliar word*
$ *suggesting 2 words which might be correct and ask child which he/she thinks is right*
$ *providing word child does not know*
$ *pausing, give child time to work it out*

(b) Emotional strategies: Praise and encouragement **given** during reading

And what happens after X has had a go at reading that word?

no praise or encouragement	0
some or moderate praise or encouragement	1
clear/substantial amount of praise, or encouragement	2

$ *Rate global encouragement, positive rapport*
$ *Rate specific praise for target behaviour, e.g. having a go at word or*
$ *'making a good guess'*

Thanks for telling me about (child's) reading

I am now going to ask you about your views of being (child's) parent.

SECTION II: VIEW OF THE RELATIONSHIP

1. I'd like you to choose 5 words that tell about your relationship with (your child). Please give me a specific experience, particular incident or time for each (#'s 1,3,5) word? (Re-ask the question twice, if necessary, to get specific experiences.)

2. Describe a time in the last week when you and (your child) really 'clicked' (got on well). (Probe if necessary: can you tell me more about the incident? How did you feel? How do you think (your child) felt?

3a. Now describe a time in the last week when you and (your child) really weren't 'clicking'(didn't get on well). (Probe if necessary: Can you tell me more about the incident? How did you feel? How do you think (your child) felt?

3b. Tell me about a time in the past week or so when (your child) misbehaved. (Probe for details). How did you handle the situation? How did you feel? How did (your child) feel?

4. Are there any experiences in (your child's) life that you feel were particularly difficult or challenging for him/her?
   If parent is being vague in their response, ask (what was particularly difficult or challenging about that?)

5. All parents struggle with knowing how much to push their child to do what is difficult versus how much not to push. What kinds of situations bring this dilemma up for you?

SECTION III: AFFECTIVE EXPERIENCE AS A PARENT

1. What gives you the most joy in being a parent?

2. What gives you the most pain or difficulty in being a parent?
   (What do you find hard about being a parent?)

3. When you worry about (your child), what do you find yourself worrying most about?

4. How confident are you that you will be able to soothe her/him when s/he is upset? How do you do it? (i.e. with contact, proximity, communicating across a distance.)

5. Do you ever feel angry as a parent? (Probe if necessary: What kinds of situations make you feel this way? How do you handle your angry feelings?)

6. Do you ever fell guilty as a parent? (Probe if necessary: What kinds of situations make you feel this way? How do you handle your guilty feelings?)

Thanks for telling me about your views of being (child's) parent

I am now going to ask you about (child's) emotions.

SECTION IV: EMOTIONAL PATTERN

1. MISERY.

Is X usually a cheerful child or does s/he sometimes get miserable? By miserable I mean sad or unhappy.

If the answer is NO: **In the past week, has X been unhappy? How did X show s/he was unhappy?**

If the answer is YES: **Can you describe what X was like the last time s/he was miserable? Is that what usually happens when s/he is miserable?**

NOTE: Detailed descriptions of the behaviour, such as crying, looks sad etc. should be obtained to ensure that the parent is not talking about defiance: do not count crying as part of a tantrum.

USUAL SEVERITY

No misery	0
Transient misery, lasting less than 6 hours, easy to cheer up	1
Marked eg lasting more than 6 hours or could only be cheered up with difficulty (e.g. long talk or special treat)	2
Severe eg could not be cheered up at all or was talking about a wish to die or run away; or too miserable to engage in usual activities	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

NOTE: Rate the most severe problem, even if it is less common than a milder problem, but exclude incidents that are described as highly out of character.

How many days a week would X usually become miserable?

If the answer is vague: **Would it be more or less than 3 days a week?**

FREQUENCY OF HIGHEST LEVEL CODED (in the last month)

No misery or less than once a week	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

FREQUENCY OF LEVEL ONE (in the last month)

Transient misery, lasting less than 6 hours, easy to cheer up:

No misery or less than once a week	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

2. WORRIES

Does X worry about things, for example school, other people...?

NOTE: A worry is defined as painful or uncomfortable thoughts. A mere preoccupation with something should therefore not be regarded as a worry unless it clearly leads to distress.

If the answer is NO: **In the past week for example, did he worry?**
If the answer is YES: **Could you give me an example of what he worried about recently?**
How long does it last? Is it difficult to reassure him?

USUAL SEVERITY

No worries	0
Mild or transient worrying (easily reassured, little distress, no self-examination, related to clear illness, no interference with activities).	1
Marked, lasting more than 6 hours **or** difficult to reassure **or** moderate interference with usual activities **or** out of proportion to the problem	2
Severe, cannot be reassured **or** marked interference with usual activities, e.g. loss of sleep, not going out etc.	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

How many days in a week would X usually be worried?
If the answer is vague*: **Would it be more or less than 3 days a week?

FREQUENCY OF HIGHEST LEVEL CODED (in the last month)

No worries or less than once a week	0
On 1 to 2 days	1
On 3 to 6 days	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

FREQUENCY OF LEVEL ONE (in the last month)
Mild or transient worrying:

No worries or less than once a week	0
On 1 to 2 days	1
On 3 to 6 days	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

3. HEALTH WORRIES

Does X worry about his health? Do you think he imagines that he is ill?

NOTE: If the child has a physical illness such as asthma or diabetes, ask:
Does he worry about it? A child who simply adjusts his life to the illness should not be rated as having a health worry.

If the answer is NO*: **For example, in the past week did he worry about his health?
If the answer is YES*: **How worried does he get? Can you reassure him? Would it stop him from going out or going to school?

USUAL SEVERITY

No health worries	0
Mild, clearly related to existing illness, little distress, easily reassured, no interference with activities	1
Marked, fair amount of distress, not easily reassured, moderate interference with activities, occasional self-examination	2
Severe, very distressed, cannot be reassured, persistent self-examination, unrelated to existing illness, marked interference with activities	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

How many days a week would he worry about his health?
If the answer is vague: **Would it be more or less than 3 days a week?**

FREQUENCY OF HIGHEST LEVEL CODED (in the last month)

No health worries or less than weekly	0
On one or two days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

FREQUENCY OF LEVEL ONE (in the last month)
Mild, clearly related to illness, little distress, easily reassured, no interference with activities:

No health worries or less than weekly	0
On one or two days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

4. FEARS

Is X frightened of anything?

If the answer is NO: **For example, a lot of children of this age are frightened of the dark. Is X frightened of that?**

If the answer is YES: **What does he do?**

Ask specifically about each fear listed below and rate each fear separately:

Does not occur	0
Dubious, minimal	1
Definite	2

1. Animals, insects, snakes ___

2. Objects that can cause injury (e.g. cars, knives) ___

3. Dirt, germs, contamination ___

4. Being away from home or going to new situations ___

5. The dark, going to bed ___

6. School ___

7. Social situations (travel, shops, swimming pool etc.) ___

8 Other (give details) ___

How severe was the worst of these fears over the past year?

USUAL SEVERITY

No fears	0
Mild, involves worry or reluctance to approach only but is able to tolerate the situation if need be.	1
Marked, avoids situation eg keeping the light on at night or expresses severe worry and reluctance.	2
Severe, total avoidance leads to handicap to normal life (e.g. not going to school, not going out) or panics or gross anxiety shown	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

5. EATING PROBLEMS

Do you have any problems with him eating? Do you think he eats too much or not enough? Is he too thin or overweight?

If the answer is NO: **For example, in the past week were there any problems with him eating?**
If the answer is YES: **Can you describe what usually happens?**

NOTE: Do not include picking at food or dislikes of certain types of food or a reported liking for so called "junk food".

USUAL SEVERITY

No eating difficulties	0
Mild, one symptom only, no interference with activities, no vomiting, no weight loss, no excessive weight gain	1
Marked, more than one symptom or some interference with activities but no vomiting, no weight loss or excessive weight gain	2
Severe, many symptoms or marked interference with activities or vomiting, weight loss, excessive weight gain	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

How many days a week would X show these difficulties?
If the answer is vague: **Would it be more or less than 3 days a week?**

FREQUENCY OF HIGHEST LEVEL CODED (in the last month)

No eating problems or less than weekly	0
On 1 or 2 days	1
On 3 to 6 days	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

FREQUENCY OF LEVEL ONE (in the last month)
Mild, one symptom only, no interference with activities, no vomiting, no weight loss, no excessive weight gain:

No eating problems or less than weekly	0
On 1 or 2 days	1
On 3 to 6 days	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

6. SLEEPING PROBLEMS

What about sleeping? Does he sleep well? Does he have difficulty going to sleep, nightmares or does he sleepwalk? *(NB: This part is for emotional sleep problems, e.g. sleeplessness, night terrors etc., and the effect they have on the child. Difficulty getting the child to bed is covered under "conduct.")*

If the answer is NO: **What time does he go to sleep?**
What time does he wake up? Does he get tired during the day?
If the answer is YES: **What happens usually?**

NOTES:
Do not include tiredness during the day due to an unusually late night
Do not include problems about going to bed or bedwetting
Do not include waking up at night unless it is clearly linked to distress, caused for example by worries or fear of the dark.

USUAL SEVERITY

No sleep difficulties	0
Mild, little distress, no interference with daytime activities	1
Marked, moderate distress or moderate interference with daytime activities, e.g. late rising because of sleep loss.	2
Severe, marked distress or marked interference with daytime activities	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

How many days a week would this usually happen?
If the answer is vague*: **Would it be more or less than 3 days a week?

FREQUENCY OF HIGHEST LEVEL CODED (in the last month)

No sleep difficulties or less than weekly	0
On 1 to 2 nights a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

FREQUENCY OF LEVEL ONE (in the last month)
Mild, little distress, no interference with daytime activities:

No sleep difficulties or less than weekly	0
On 1 to 2 nights a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

Thanks for telling me about (child's) emotions

PARENTAL PERCEPTIONS OF CHILD'S EMOTIONAL PATTERN

So the chief concern you've raised so far is that s/he

.....
(Choose worst emotional problem; if there is no problem that scores level 2, CODE 8's below and proceed to 'mothers' response to injury or distress')

How much of a problem do you consider this to be?

PARENTAL PERCEPTION OF EMOTIONAL PATTERN

No problem for them, unconcerned	0
Minor problem parent slightly worried about child's emotional problem	1
Major problem, parent very concerned about child's emotional problem	2
Severe problem eg parent constantly worrying or very upset or close to breaking point at times	3
Not applicable (no emotional problems)	8
No information, don't know or unreliable information	9

NOTE: If there were no emotional problems rate 8 (Not applicable)

SECTION V. ACTIVITY LEVEL AND INATTENTIVE BEHAVIOUR

1. WATCHING TELEVISION OR VIDEO

Now I would like to ask you how well X concentrates at home. For example, has s/he watched television or video in the past week? What's his/her favourite programme? How long did s/he watch it for?

If the answer is vague: **Would it be more or less than half an hour?**

Would that be a typical time for him when s/he likes a programme?

Usual attention span

More than 30 minutes	0
Between 15 and 30 minutes	1
Between 6 to 15 minutes	2
Five minutes or less	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

The last time you saw X watching television, was he staying in one place or was he up and down and moving around the room? How often did he move about?

If the answer is vague: **Would it be about every 15 minutes or less?**

Usual restlessness

No restlessness	0
Once every 15 minutes	1
Once every 5 to 15 minutes	2
Once every 5 minutes or more often	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

NOTE: When the child lies on the floor or stands up while watching television, the ratings remain the same.

When (s)he is sitting down while watching the television, would he usually fidget, like swinging legs, tapping fingers, scratching, fiddling with an object or playing with clothing?

How much of the time does he usually do that?

If the answer is vague: **Would it be all the time, more than half the time or less than half the time?**

Usual fidgetiness

No fidgeting	0
Less than half the time	1
More than half the time, but not throughout	2
Continuous, never stops	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

II. READING (*This question will usually not be applicable in 'PRE' assessments as it depends on the child reading on his own. However, ask the question nonetheless, and if the child is not reading alone, code 8).*

Has X read or looked at a book or comic on his own recently, by choice, for example in the past week?

That particular time, how long did he read for? Is that the usual time he spends reading?

Usual attention span

More than 30 minutes	0
Between 15 and 30 minutes	1
Between 6 and 15 minutes	2
Five minutes or less	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

NOTES: *Only rate independent reading. Do not rate reading a schoolbook aloud to a parent.

The last time you saw him reading a book or comic, did he stay in one place or was he up and down and off his seat at all?

If the answer is vague: **Did he sit in one place for more than 5 minutes?**

Is this what usually happens when he is reading?

Usual restlessness when reading

No restlessness	0
Once every 15 minutes	1
Once every 5 to 15 minutes	2
Once every 5 minutes or more often	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

NOTE: If the child usually reads in bed and does not get out of bed, rate 0.

When he is reading, does he fidget?

******If the answer is vague:* **Would it be all the time, more than half the time or less than half the time?**

Usual fidgetiness when reading

No fidgetiness	0
Less than half the time	1
More than half the time but not throughout	2
Continuous, never stops	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

III. SOLITARY PLAY

Does he like doing things on his own, like painting, drawing, playing with toys?

If the answer is YES: **Can you give me an example you saw in the last week?**

The last time he was playing or doing something on his own, how long did he do that?

Is that a typical time for him to play on his own?

If the answer is vague: **Could he play on his own for 30 minutes, or would it usually be less than that?**

Usual attention span for solitary play

More than 30 minutes	0
Between 15 and 30 minutes	1
Between 5 and 15 minutes	2
Five minutes or less	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

NOTES: If the attention span differs according to activity, rate the longest duration.
Do not include activities shared with a parent or another child.

The last time X was playing or doing something on his own, did he get up and move around at all? How often did he do that? Is that what usually happens when he plays on his own?

Usual restlessness in solitary play

No restlessness	0
Once every 15 minutes	1
Once every 5 to 15 minutes	2
Once every 5 minutes or more often	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

That particular time he was playing on his own, did he fidget a lot?

If the answer is vague: **Would it be all the time, or more than half the time or less than half the time?**

Is that what usually happens when he plays on his own?

Usual fidgetiness in solitary play

No fidgetiness	0
Less than half the time	1
More than half the time but not throughout	2
Continuous, never stops	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

III. JOINT PLAY WITH OTHER CHILDREN

Has X recently played indoors with other children, perhaps friends, or brothers and sisters? What were they doing? That particular time, how long did they play together for? Is that the usual time X spends playing with other children?

Usual attention span for joint play

More than 30 minutes	0
Between 15 and 30 minutes	1
Between 5 and 15 minutes	2
No more than 5 minutes or less	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

When he played with other children was he running around unnecessarily in and out of rooms? *(NB In terms of the game, not of the parent's convenience)*
How often did he do that? Is that what usually happens when he plays with other children?

Usual restlessness in joint play

No restlessness	0
Once every 15 minutes	1
Once every 5 to 15 minutes	2
Once every five minutes or more often	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

Thanks for telling me about (child) at home

IV. MEALTIMES

How is he/she at meal times.
When he has a meal, does he get up and down from her his seat at all?

If the answer is YES: **How many times would he usually get up?**

If the answer is vague: **Would he usually get up once or twice or more?**

NOTE: Do not rate getting up to fetch a glass of water, salt etc. unless the parent specifically states these are excuses to get up. If child only stays seated because of actual physical restraint, rate level that would occur without restraint.

Usual restlessness at mealtimes

No restlessness	0
Once only	1
2 to 5 times	2
More than 5 times	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

V. SHOPPING TRIPS

Have you recently taken him to the shops? That particular time, did he run away from you at all/ picks things off the shelves?
How often did he do that? Is that what usually happens when you take him shopping?

Usual restlessness when shopping

No restlessness (never runs off)	0
Every 5 minutes or less often	1
Every 2 to 5 minutes	2
More often than every 2 minutes	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

NOTES: Include disturbing other shoppers by pushing the trolley in an uncontrolled way. Do not count going away from mother to fetch an item and bring it back. If the parent keeps the child restrained in the trolley because of previous experience of repeated running off, or has stopped taking the child shopping for the same reason, rate as for last time in shops, if the child has been in a shop within the last month. If not taken to supermarket because of overactivity, ask behaviour in other shops. If hasn't been in any shop at all in last month, rate 8.

VI. FAMILY OUTINGS

Have you recently been on an outing as a family or visited relatives? On that particular occasion did X stay doing the same thing as the others or did he get up and down, or run about? How much of the time was he doing that?

Usual restlessness on outings

No restlessness	0
Every 10 minutes or less	1
Every 5 to 10 minutes	2
More often than every 5 minutes	3
Not applicable or no opportunity to occur in past year	8
No information, don't know or unreliable information	9

NOTE: If the parent has stopped taking the child on outings because of uncontrolled running about, rate 3.

Thanks for telling me about those times.

RESEARCH CRITERIA

INATTENTIVE BEHAVIOUR

I would now like to ask you about the way he carries out tasks like homework, household chores, helping to make things.

What kind of things has he been asked to do recently?

NB: Rate interviewers assessment of level of problem using all information gathered so far; this may differ from parent's perception.

(1) When you gave him the instructions, how well did he follow through? Did he complete the task?

Followed all instructions completely	0
Followed the most important instructions but failed to follow others; did the main part of the task.	1
Failed to follow most instructions, including the most important ones; and/or completed less than half the task; gave up quickly.	2
Not applicable or situation not arisen	8
Cannot be rated	9

IF X FAILED THE TASK (i.e. **RATED 2**) THEN:

I would now like to ask you some questions about why he might not have done it.

(i) Did he listen to your instructions and did he understand what you told him to do?

Listened and understood the instructions	0
Did not seem to listen, but showed by her/his actions that the instructions had been heard and understood	1
Did not seem to listen and showed by her/his actions that she/he had only partly understood the instructions	2
Showed a marked lack of attention to what had been said and clearly misunderstood most of the instructions	3
Not applicable or situation not arisen	8
Cannot be rated	9

IF **RATED 0 OR 1**:

(ii) So he did understand. Was the difficulty that he didn't want to do it, was he refusing to do it or was there some other reason ?

Other reason (e.g. Inattention)	0
Oppositional	2
Not applicable	8
Insufficient information	9

SUMMARY RATING FOR QUESTION **(1)**

Followed instructions	0
Followed most instructions	1
Failed to follow instructions, but understood, was not oppositional (e.g. due to inattention)	2

(2) Did he make careless mistakes while he was doing the task you just described? In general, does he often fail to pay close attention to details?

No mistakes, close attention to detail	0
Understood the task, but made one or two unnecessary mistakes, but good enough for purpose	1
Failed to pay close attention, resulting in repeated careless mistakes	2
Was so careless that the task could not be completed or had to be done again	3
Not applicable or situation not arisen	8
Cannot be rated	9

(3) Was he easily distracted from the task, for example by noises or by people coming into the room?

No at all distracted	0
Temporarily distracted, but returned to task of own accord	1
Had to be told to return to task more than once or abandoned task	2
Not applicable or situation not arisen	8
Cannot be rated	9

Thank you for giving me a detailed picture of that particular incident.

Now I want to look at the more general picture.

(4) Does he often seem not to listen when you are talking to him?

Listens and responds socially appropriately	0
Listens but not fully attending	1
Doesn't notice that he has been spoken to, doesn't seem to listen; Shows a marked lack of attention to what is being said	2
Not applicable or situation not arisen	8
Cannot be rated	9

(5) If a task needs planning, like getting paper, pencils etc. to do homework, or a drawing, or getting cleaning materials when told to do a job in the house, how well does he organise himself?

Collects everything needed before starting a task	0
Sometimes has to get things after a task has been started	1
Often disorganised fails to set up things necessary for the job; often has to go back and get things	2
Not applicable or situation not arisen	8
Cannot be rated	9

(6) When X is asked to do a job that needs sustained mental effort, like homework, or reading, is X reluctant to do it, does he avoid it or dislike it?

Eager or at least cooperative at first	0
Somewhat reluctant at first, but no further complaints when started	1
Strong initial resistance, or continued to complain throughout the task	2
Strong continued resistance or complete avoidance of the task	3
Not applicable or situation not arisen	8
Cannot be rated	9

(7) Does X often lose things necessary for tasks or activities, like clothes, toys, pencils, books?

Never loses anything	0
Occasionally loses something, but does not make a habit of it	1
Frequently loses things	2
Not applicable or situation not arisen	8
Cannot be rated	9

(8) Would you say that X is generally forgetful carrying out everyday activities?

PROBE: For example getting things ready for school

Forgetfulness not a problem	0
Sometimes forgetful, but does not make a habit of it, does not interfere with activities	1
Frequently forgetful, leading to disruptive routine	2
Not applicable or situation not arisen	8
Cannot be rated	9

IMPULSIVENESS

(9) When playing games or waiting to be served a meal at the table, does X have difficulty waiting for his turn?

No difficulty waiting	0
Becomes impatient very quickly, but can wait	1
Often goes before his/her turn, or pushes in on other children's games	2
Not applicable or situation not arisen	8
Cannot be rated	9

(10) When you ask X questions or talk to him/her, can he/she wait until you've finished before he/she answers, or does he/she blurt out something or interrupt before you've finished?

Waits until the question is completed	0
Is somewhat hasty, but listens to the question first	1
Blurts out an answer before the question has been completed	2
Not applicable or situation not arisen	8
Cannot be rated	9

(11) In a game or conversation with other people, does X often butt in, intrude or interrupt what they are doing?

No - Waits until there is a pause; doesn't butt in or intrude	0
Sometimes is a bit intrusive, but not typically or very intrusively so that others have to stop	1
Frequent interruptions that get in the way of others activities	2
Not applicable or situation not arisen	8
Cannot be rated	9

OVERACTIVITY

(12) When he is doing things is X often very noisy? Does he tend to bang things a lot? Is it hard for him to play quietly?

Able to play quietly	0
Some noisiness but can engage in quiet activity	1
Unable to play quietly; generates excessive noise carrying out tasks which others would do quietly	2
Not applicable or situation not arisen	8
Cannot be rated	9

(13) Does he talk too much, even when most children would be quiet? Have other people commented on it?

No excessive talk	0
Some excessive talk but able to be quiet when the situation demands	1
Definite overtalkativeness in several situations, ignoring cues not to speak	2
Constantly verbalizing	3
Not applicable or situation not arisen	8
Cannot be rated	9

(14) Is X often "on the go" or does he/she often act as if he's/she's "driven by a motor"

No – usually calm	0
Some outbursts of exuberance, but generally no more active than other children of their age and gender	1
Definitely often continuously on the go	2
Constantly on the go, never seems to stop	3
Not applicable or situation not arisen	8
Cannot be rated	9

Thank you for telling me about (child).

SECTION VI: DISRUPTIVE BEHAVIOUR

1. TELLING LIES

Now I would like to ask about some of the things most children do to some extent. For example, would X exaggerate, make up stories that are not true or tell lies?
If the answer is NO: **In the past week for example, did he exaggerate, make up stories or tell lies?**
If the answer is YES: **Could you give me an example?**
Does he admit to lying when you confront him with it?

HIGHEST LEVEL OF SEVERITY (in last month)

No exaggeration, making up of stories or lies	0
Exaggeration or making up stories	1
Lies in order to get out of trouble (white lies) or lies to make trouble for others (siblings) but does not persist when challenged	2
Serious lies, e.g. lies about where he goes or what he does, never admits to lies or lies to obtain goods or favours or to avoid obligations	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

How many days in a week would he usually exaggerate, make up stories or tell lies?
If the answer is vague: **Would it be more or less than 3 days a week?**

FREQUENCY OF HIGHEST LEVEL CODED (In the last month.)

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

FREQUENCY OF LEVEL ONE (In the last month.)
Exaggeration or making up stories:

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

II. STEALING

Would X take things that don't belong to him?

If the answer is NO: **In the past week for example, did he take things?**

If the answer is YES: **Has it happened in the past month?**

What kinds of things did he take?

NOTES: Include stealing at school, either from other children or items belonging to the school (e.g. pens, pencils, rubbers etc.), or from relatives' or friends' homes. Do not include taking food or swapping toys

HIGHEST LEVEL OF SEVERITY (in last month)	
Did not steal in last month	0
Small items or small amounts of money	1
Valuable family possessions	2
Large sums of money or steals from shops	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9
FREQUENCY OF HIGHEST LEVEL CODED (In the last month.)	
Never or less than once a month	0
More than once a month but less than weekly	1
Once or twice a week	2
More than twice a week	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9
FREQUENCY OF LEVEL ONE (In the last month.)	
Small items or amounts of money:	
Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

III. TEMPER TANTRUMS

Does X sometimes lose his temper? Does he start shouting or screaming or stamping his feet?
If the answer is NO: **In the past week for example, has he done anything like that?**
If the answer is YES: **Would he also throw things, or kick something like a wall or table? Would he break things or hit someone?**

HIGHEST LEVEL OF SEVERITY (in last month)

No tantrums in last month	0
Mild, shouting, waving arms, stamping feet	1
Marked, throws things, kicks objects	2
Severe, breaks things, kicks or hits people	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

NOTE: In case of differing severities, rate the most severe behaviour

How many days in a week would he usually do that?
If the answer is vague: **Would it be more or less than 3 days a week?**

FREQUENCY OF HIGHEST LEVEL CODED (In the last month.)

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

FREQUENCY OF LEVEL ONE (In the last month.)
Shouting, waving arms, stamping feet:

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

IV. RUDENESS

Is X cheeky, would he answer you back?
If the answer is NO: **In the past week, for example, has s/he been cheeky?**
If the answer is YES: **Would s/he ever speak to you in a disrespectful, rude way? And has s/he ever sworn at you or spoken to you in an abusive way?**
Does he swear at all? (Not necessarily at you).

HIGHEST LEVEL OF SEVERITY (in last month)

No rudeness or less than weekly	0
Cheeky, answering back, pulling faces without intensely negative attitude	1
Rude, more disrespectful than being cheeky	2
Swearing or abusive to one or two parents	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

NOTES: Rate the most severe behaviour. Do not include cheekiness, which by the parents' account is playful and not intended to be disrespectful.

How many days in a week would he usually do that?
If the answer is vague: **Would it be more or less than 3 days a week?**

FREQUENCY OF HIGHEST LEVEL CODED (In the last month.)

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

FREQUENCY OF LEVEL ONE (In the last month.)
Cheeky, answering back, or pulling faces but not particularly rude:

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

V. DISOBEDIENCE

I'd like to ask about times s/he refuses do what you ask, like putting toys away or laying the table. Does s/he ever resist doing things you ask?
If the answer is NO: **In the past week for example, did s/he disobey you?**
If the answer is YES: **How strongly does s/he resist? Does s/he grumble but eventually do it? Or does s/he sometimes flatly refuse to do things you ask? And does s/he then sometimes get rude or have a tantrum?**

HIGHEST LEVEL OF SEVERITY (in last month)

No refusing	0
Mild resistance, answers back but not rude	1
Marked resistance, refuses to comply, (e.g. negative or rude replies)	2
Severe, refuses, (e.g. leading to tantrums or aggressive behaviour)	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

NOTE: Include any disobedience, even if parents say the child's disobedience is related to only particular activities

How many days a week would he be disobedient?
If the answer is vague: **Would it usually be more or less than 3 days a week?**

FREQUENCY OF HIGHEST LEVEL CODED (In the last month.)

No disobedience or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

FREQUENCY OF LEVEL ONE (In the last month.)
Mild resistance: Answers back but not rude:

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

VI. REFUSAL TO GO TO BED

Do you have trouble getting him off to bed at night, does he refuse to go to bed?

If the answer is NO: **In the past week, for example, was he difficult about that?**

If the answer is YES: **Can you describe what usually happens?**

HIGHEST LEVEL OF SEVERITY (in last month)

No difficulties	0
Mild, grumbling or stalling but not intense or prolonged	1
Marked, child refuses or has to be coerced into going	2
Strong, refusal leading to tantrum	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

NOTE: Rate the most severe behaviour

How many days in a week does he usually behave like that?
If the answer is vague: **Would it usually be more or less than 3 days a week?**

FREQUENCY OF HIGHEST LEVEL CODED (In the last month.)

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

FREQUENCY OF LEVEL ONE (In the last month.)
Mild grumbling or stalling but not intense or prolonged:

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

VII. DESTRUCTIVENESS

Have there been any times recently that he has deliberately broken, torn or spoiled something, like his toys or things belonging to another child or things in the home?
If the answer is NO: **In the past week, did he ever do anything like that?**
If the answer is YES: **What did he do?**

HIGHEST LEVEL OF SEVERITY (in last month)

No destructiveness	0
Destroyed own property only	1
Destroyed siblings possession or caused mild damage outside the home	2
Caused serious damage in the home (e.g. fire setting) or outside the home	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

NOTE: Rate the most serious behaviour

How many days a week would he usually do that?
If the answer is vague: **Would it be more or less than 3 days a week?**

FREQUENCY OF HIGHEST LEVEL CODED (in the last month)

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

FREQUENCY OF LEVEL ONE (In the last month.)
Destroyed own property only:

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

VIII. AGGRESSIVENESS

Does X sometimes get aggressive to other people? For example, would s/he hit his brothers or sisters (or friends) if provoked?

If the answer is YES: **How aggressive does s/he get? Does s/he hurt anyone? Do you have to restrain him/her?**

HIGHEST LEVEL OF SEVERITY (in the last month)

No aggressiveness	0
Mild, threatens only or lashes out when provoked	1
Marked, is physically aggressive, but only transiently and not intensely	2
Severe, attacks people, hurts them, has to be restrained	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

NOTE: Rate the most severe behaviour

How many days in a week would he usually do that?

If the answer is vague: **Would it be less or more than 3 days a week?**

FREQUENCY OF HIGHEST LEVEL CODED (in the last month)

Never or less than weekly	0
On 1 or 2 days	1
On 3 to 6 days	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

FREQUENCY OF LEVEL ONE (In the last month.)

Mild, threatens only or lashes out when provoked

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

PARENTAL PERCEPTIONS OF OPPOSITIONAL BEHAVIOUR

So the problems that you have highlighted in this section are...../ there don't seem to be any particular problems in this section, is that right?
(Choose most severe problem)

When did it begin?
When did you first notice that it was a problem?

RATE AGE OF ONSET IN MONTHS: ____ (2 DIGITS)

How much do you think that it is within his control?

Do you think he could do more to stop it happening?

How much is it his fault?

PARENTAL PERCEPTION OF LOCUS OF CONTROL

Almost always outside child's control/can't help it	1
Between 1 and 3	2
Partly in child's control, partly beyond; can stop it on some occasions and not on others	3
Between 3 and 5	4
Almost always in child's control; could stop it on most occasions if he wanted to	5
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

How much of a problem do you consider this to be?

PARENTAL PERCEPTION AND EMOTIONAL REACTION

No problem for them, unconcerned	0
Minor problem, parent slightly worried about child's disruptive behaviour	1
Major problem, parent very concerned about child's disruptive behaviour	2
Severe problem, parent constantly worrying; very upset/ close to breaking point at times	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

MOTHER'S COPING WITH DIFFICULT BEHAVIOUR

How do you react when X behaves like that?

What did you do the last time?

Did it work? How effective were you in dealing with it?

Have you found any other ways of dealing with the behaviour?

Who usually "wins"? When you have differences, who usually makes it up?

RATE MOTHER'S COPING WITH OPPOSITIONAL OR DIFFICULT BEHAVIOUR ★ ___ (1 DIGIT)

(Responses to this section will also contribute to global parenting ratings at end of interview)

Does you partner agree with the way you handle it?

Do you cope in different ways, or over rule each other?

Do you argue in front of him?

RATE INTER-PARENTAL CONSISTENCY ★ ___ (1 DIGIT)

(★*See the manual for ratings*)

NOTE: For one-parent families, rate inter-parental consistency 8.

RESEARCH CRITERIA (ODD)

(1) Does X ever argue with you or teachers or any other adults?

Usual frequency

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
Cannot be rated	9

(2) Does X deliberately do things to annoy people?

Usual frequency

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
Cannot be rated	9

(3) Does X get touchy, or easily annoyed by other people?

Usual frequency

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
Cannot be rated	9

(4) Does X ever get angry or resentful?

Usual frequency

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
Cannot be rated	9

(5) Is X ever spiteful or vindictive towards other people?

Usual frequency

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
Cannot be rated	9

(6) Does X ever blame other people for his/her mistakes or misbehaviour?

Usual frequency

Never or less than weekly	0
On 1 or 2 days a week	1
On 3 to 6 days a week	2
Daily	3
Not applicable or situation not arisen	8
Cannot be rated	9

Thanks for telling me about (child's) behaviour.

SECTION VII: TOGETHER AT HOME

Now I would like to ask you some questions about how you and your child spend your time when you are at home.

PLAY

Parents vary a lot in how much time they can spend playing with their child, and the kind of activities they like to do. Some parents find it nice to be with or play with their children, but for others it might be a bit of a nuisance especially when they are busy.

In a typical week (including the weekend) how often do you and your child get the chance to do the following activities together for 10 minutes or more:

Play pretend games together, for example with cars or dolls:
[No. of days per week for 10 minutes or more 0-7] ☐

Play with construction toys like Lego, bricks, K'nex *(0-7)* ☐

Play board games or puzzles, e.g. Frustration, Snakes and Ladders, Jigsaws *(0-7)* ☐

Drawing or making things together e.g. Playdough, cutting out *(0-7)* ☐

Physical activities such as football, catch, rough & tumble *(0-7)* ☐

Watch TV or a video, with both of you watching together *(0-7)* ☐

On a 0 to 10 point scale how much do you usually enjoy playing or doing things together with X?
0 is "I honestly don't enjoy it at all"
10 is "I really do enjoy it a lot"

JOINT ACTIVITY AND COMMUNICATION

When you are getting things done with X around, like housework, getting meals ready, or going shopping:

Does he/she talk to you about things? .....

Can you give me an example? For instance, what about yesterday or even today?
[Probe for conversation, not just practical requests to get things done].

.....

What sort of things do you talk about together? Can you give me an example what you talked about today or yesterday? .....

.....

What sort of things does X tell you about that interest him/her? .....

.....

What sort of things does X tell you about that trouble or worry him/her? .....

.....

Thank you for telling me about the sorts of things you talk about together

ENCOURAGING GOOD BEHAVIOUR

We are interested in finding out what you do to manage your child's behaviour, and what you find works. Sometimes different children need different approaches when they are behaving well or also misbehaving. And also parents differ in what they find works and what they feel comfortable with.

1) Thinking about yesterday, was it a reasonably typical day? *(try and get a good and detailed account of that day)[If no, choose the last typical day]*
a) How was X when (s)he got up?
b) And was X when (s)he had breakfast?
c) And what happened after that?
d) And what happened in the evening? (also bedtime)
2) What was X's behaviour like? Was X better or worse behaved than usual?
3) How useful do you find it to praise X if (s)he is doing something you asked him/her or doing something well? Can you give an example from yesterday, anything (s)he did?
4) Do you feel that X needs praise and also responds to praise?
How many times per day do you praise (child)?

None	0
1-2	1
3-5	2
6-10	3
11+	4
N/A	8
No information	9

In the last week, did you give a reward to your child for doing what you asked, such as sweets or crisps, extra TV, more time playing football or a game he/she likes or a sticker? Can you give an example?

No	0
1-2	1
3-5	2
6-10	3
11+	4
N/A	8
No information	9

CONSEQUENCES FOR MISBEHAVIOUR

There are many different ways in which parents manage their children when they are difficult. All children can be difficult or naughty sometimes. We would like to ask you what you do when your child does something you consider wrong or naughty, such as hitting another child, deliberately breaking something, or persistently refusing to do what you ask.
Thinking about last week, how many times have you withdrawn a privilege, for example taken away TV time, use of a bicycle, stopped sweets, removed toys?

Never	0
1	1
2	2
3	3
4+	4
N/A	8
No Information	9

How often in the last week have you sent your child to a boring place such as their room or the hall, or a chair for a short time (<u>under 10 minutes</u>)?

None	0
1	1
2	2
3	3
4+	4
N/A	8
No information	9

And how about the number of times you sent them to their room or some other boring place for 10 minutes for longer?

None	0
1	1
2	2
3	3
4+	4
N/A	8
No information	9

How many times did you give your child a tap or smack?

None	0
1	1
2	2
3	3
4+	4
N/A	8
No information	9

Thank you for telling me about how you manage (child's) behaviour.

SECTION VIII: VIEW OF THE DAY

Everyone has off days (less good days) where they can find themselves feeling a bit impatient and irritable, or rather grumpy. How many days a week do you find yourself raising your voice or shouting at him/her or getting angry or cross at him/her?

How many days of the week does that happen?
[put score in box 0-7]

On the days that it does happen, how many times do you actually find yourself being critical, or shouting at him/her?

None	0
1-2	1
3-5	2
6-10	3
11+	4
N/A	8
No information	9

What are the best things about him/her? .....

What is he/she really good at? .....

Thank you so much for telling me all about X and your relationship with him and his/her behaviour. You've told me that X has lots of positive qualities such as….. I'm impressed about all the thoughts you put into the upbringing of your child.

Thank you very much for your help.

Further comments:

Overall quality of parental supervision, control and facilitation

RATE THE FOLLOWING SCALES TAKING ALL RELEVANT INTERVIEW INFORMATION INTO ACCOUNT (APPROPRIATENESS HAS TO BE JUDGED BEARING IN MIND THE PARTICULAR CHARACTERISTICS OF THE CHILD).

DISCIPLINARY FLEXIBILITY

0 VERY LITTLE Parent very rigid. Very little give and take in relationship. Virtually no negotiation on child's autonomy or behaviour, or rules.

1 LITTLE Parent sticks to predetermined agenda most of the time, but allows a little negotiation from the child on timing or detail.

2 AVERAGE Parent in control but child contributes somewhat to choice of activities and timings. Nonetheless parent insists on all main issues and regularly draws the line on child.

3. GOOD Parent firm on all the major issues, but able to allow child chance to make use of opportunities which are good for the child but not harming them, e.g. staying up late at weekends or holidays, changing rules at short notice when child has opportunity to play with a friend or go on a trip, etc. Able to negotiate with child and incorporate his/her viewpoint in setting rules; promotes child's autonomy.

4. SOMEWHAT INDULGENT Parent is inclined to let child get away with things and tends not to set limits consistently or exert authority when this seems necessary - e.g. when child is rude, aggressive or defiant.

5. VERY INDULGENT Parent lets child get away with obvious bad behaviour and fails to show any consistent attempt to set boundaries or guide behaviour. General approach is very lax.

DISCIPLINARY AGGRESSION

0 VERY LITTLE. Parent virtually never smacks, shouts or loses temper with child. Parent remains on an even keel without expressions of anger.

1 LITTLE. Parent generally shows only occasional irritability, and no smacking or hitting. Loss of temper only occurs in unusual, atypical circumstances.

2. AVERAGE Fairly frequent low level irritability shown with occasional loss of temper. Critical or derogatory comments only occasionally when parent tired or upset. Smacking only in exceptional circumstances.

3. SOMEWHAT AGGRESSIVE Irritable outbursts not uncommon, and associated with loss of temper and shouting on occasions. Control episodes often show anger with an element of short-term loss of emotional control. Parent may say derogatory things to child in anger. Smacking may be more frequent.

4. AGGRESSIVE Shouting at child fairly common with frightening tone and sometimes seriously undermining remarks about the child's character. Threats of physical punishment often used, and occasionally threats to take away major things the child cares about. Punishments may appear too severe for child's understanding of the problem.

5. ABUSIVE Parent frequently loses temper with child and shouts or screams at him/her. Inappropriately severe punishments often given, many positive experiences withheld or frequent smacking. There may be threats to abandon the child.

SENSITIVE RESPONDING

0. VERY LITTLE Parent shows little recognition of or sensitivity to anxieties or worries, child tends to be seen as an irritation or nuisance. Little recognition or account of the child as an individual. Tends to treat child as an object.

1. SOMEWHAT INSENSITIVE Parent shows only limited ability to recognise anxiety or worry, and/or not much sympathy in response. Child is left to sort out such difficulties on own, or positive response shows little flexibility or imagination.

2. AVERAGE SENSITIVITY Parent seems to recognise and respond appropriately to child's fears, anxieties and worries, showing a sympathetic and comforting response. On the other hand, the style of responding may tend to be the same, not especially attuned to the problem, and at times the mother doesn't seem too aware of the child's needs nor take imaginative steps to meet them.

3. ABOVE AVERAGE Parent shows fairly good ability to recognise worries and anxieties from non-verbal cues, and to anticipate anxiety provoking circumstances. Responses are differentiated according to parental appraisal of the problem or distress, with a pretty accurate idea of the child's individual needs, and some thoughtful steps to meet them.

4. VERY SENSITIVE PARENTING Parent shows behaviours as in 3, but in addition shows a keen awareness of the child as an individual and his/her particular needs are well understood. Parent actively assists the child in anticipating and overcoming problems so as to maximise the probability that the child learns positively from the experience and may cope better in the future. Imaginative, thoughtful planning to meet child's needs and develop him/her.

COMMUNICATION WITH CHILD

(rate the highest level regularly achieved)

0 VERY LITTLE Nearly all communication is brief and about practical matters, parent telling child what to do, child making practical requests. Almost no conversations about child's interests or enquiry about child's day. Very little sharing by parent or elicitation from child of what they are interested in, commentary about what they are seeing, doing, or struck by in the world around them.

1 LITTLE Most communication is about practicalities as described above, although there are a few conversations where parent elicits and listens to child's views, e.g. about a football match on TV, what it's like at school. However, these are mostly short, with little exploration of the child's views and feelings.

2 MODERATE Some communication about child's interests and what they've been doing, e.g. child asked about their day over the evening meal. Some encouragement to describe their thoughts and concerns, but not prolonged or elaborate, not especially reflective or going much beyond the here and now.

3 GOOD A good deal of conversation with the child about their interests, concerns, and thoughts about things. Parent interested in child's view and actively seeks it at times; parent able to respond by thinking about what child has said and putting their own view. Emotion states accepted and talked about.

4. VERY GOOD Lots of conversation by parent with child, and elicitation from child by parent, of views on things they are interested in, excited by, and doing. Content includes accepting and commenting on emotion states of child; talking about future and past events to help child make sense of them; exploring child's view of the world. Parent genuinely interested in child's view, and takes pleasure in it.

FEELINGS FOR CHILD

(Rate like and dislike independently, as they often co-exist. Make us of both emotions expressed by mother to child, and what she tells you about how she feels).

	LIKE		DISLIKE
0	VERY LITTLE Almost no affection expressed for child. Few if any positive attributes or strong points described with any warmth. Parent prefers it when child not there. Little or no pleasure from child's presence.	0	VERY LITTLE Very few or no negative feelings expressed for child. Inconvenient or difficult behaviour seen as understandable and forgivable. Disciplinary episodes do not lead to any dislike of the child as a person.
1	LITTLE Seldom much affection expressed to child, about who parents seems to be neutral at times. One or two strong points recognised without great enthusiasm. Not much pleasure in child's presence, child not made to feel appreciated.	1	LITTLE. Occasional transient negative feelings for child, usually around misbehaviour rather than as whole person. Negative comments are about behaviour, not character and not intense.
2	AVERAGE Parent says or can be assumed to love child, and talks about them mainly in a positive supporting way as a person (though not all their behaviour). Cuddles child most days, shows they are pleased to see them in greetings, comfortable to be with them.	2.	AVERAGE Occasional dislike of child, often due to behaviour, expressed in terms of child's character trait as not being nice. One or two significant character faults described in child, but they don't dominate parent's perception.
3.	STRONG Parent undoubtedly loves child a lot, expresses affection often, enjoys being with child, sees several good attributes in them and is proud of these.	3.	STRONG Several occasions when parents feels active dislike or child and wants to reject them at that time. Child seen as having definite serious faults, and told about them with critical tone.
4.	VERY STRONG Parent loves child very much indeed, frequently shows affection, takes great pleasure in their company, thinks they are brilliant for what they do (which may objectively be average)	4.	VERY STRONG Parent often feels strong negative feelings for child. May feel persecuted by him/her, and have strong feelings of rejection towards the child, who at times they may hate. Child's presence alone sometimes leads to active dislike, and parent actively wish s/he wasn't around. Child may be seen as spoiling parent's life at present.

*OVERALL RATING OF WARMTH TOWARDS THE CHILD
Based on information obtained during the entire interview

A great deal of expressed warmth	0
Quite a lot of demonstration of warmth	1
Moderate demonstration of warmth	2
Little or no demonstration of warmth	3
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

Warmth ratings

Mother ___

Partner ___

*OVERALL RATING OF CRITICISM TOWARDS THE CHILD
Based on information obtained during the entire interview

No expressed criticism	0
Very little expressed criticism	1
Some expressed criticism	2
Quite a lot of expressed criticism	3
A lot of criticism throughout	4
Not applicable or situation not arisen	8
No information, don't know or unreliable information	9

Criticism ratings

Mother ___

Partner ___

*OVERALL RATING OF PARENTAL COPING
Based on information obtained during the entire interview

Mother's overall coping ___

Partner's overall coping ___

Parental consistency in coping ___

*For ratings see the manual

Appendix F.1. - Coding of Attachment-Related Parenting (CARP)

1. Sensitive Responding

Responsiveness emphasises the parent's awareness of the child's needs and sensitivity to his/her signals.

Consider here *how* and *when* the parent responds to verbal and/or non-verbal cues elicited by the child during the course of the interaction.

Operationalisation
Examples:

a) ***Responsiveness to child's non-verbal seeking-behaviour*** – This category is used if the child gets "stuck" with the play (non-verbal behaviour), and doesn't know what to do with a certain toy/object, and sends clear behavioural cues/signals that he/she needs the parent's assistance. An example of these types of cues/signals might be looking at the parent and waiting for his/her feed-back, whilst child is holding a piece of Lego, seeming not to know how to start building "the Lego man". In these situations, a responsive parent will offer either verbal or instrumental help in a prompt, contingent, warm, supportive, empathic, and/or interested manner;

b) ***Responsiveness to "lost child's needing-behaviour"*** – This behaviour relates to situations where there is no clear agenda (e.g. child picks up playdough but doesn't start to play and appears to the observer to need guidance, encouragement or emotional support), and the child doesn't send signals seeking any help from his/her parent, either verbally or non-verbally. This category can be used for any apparent needing situation for the child and, in contrast to 1.a) above, is not immediately task related. In situations where it seems that a caring parent would spontaneously intervene but doesn't do it, the observer will therefore score low in this category, whereas in situations where a parent appears to spontaneously meet the child's needs (e.g. child is unhappy, frustrated, lost and/or hurt), the observer will score high. In these cases, a responsive parent, even without being provided with any signals from child as to how "lost" or needy he/she might be, will still be able to anticipate the child's need for help and will, therefore, offer assistance without being requested to do it.

c) ***Responsiveness to child's verbal seeking-behaviour*** - If a child verbally refers to the parent asking for help and/or assistance or comments on how difficult a certain task might be, a responsive parent will offer either verbal or instrumental help in a prompt, contingent, warm, supportive, empathic, and/or interested manner;

d) ***Responsive Engagement*** - Responsive parents will make enthusiastic comments on child's achievements during play whether or not the child is responsive to the parent. Responsive parents will keep an attentive attitude towards child's activities (note: this attentiveness is more than just looking in child's direction). This attitude on the part of the parent is basically a child-focused one (i.e. the parent focus her attention to what child is doing, "following" the child in his/her activity because the parent's major motivation is to be immersed in his/her child's activity, thus, keeping a high level of engagement with what his/her child is doing).

e) ***Sensitive Child Mindedness*** - Sensitive parents are aware of the child's emotional/affective states and they recognise the child's internal mental state, by using mental state language such as assertions that the child is bored, worried, impressed, or excited. These assertions may also appear in the form of linkages the parent makes between a past event in the child's life that has an obvious relation to the child's current affective state.

f) ***Responsive Facilitation*** – responsive parents will perform behaviours and/or make verbalisations in order to respond to child's needs during the task (e.g. despite no signals from child). This is seen in situations where, although child has a clear agenda (i.e. wants to make white clouds with playdough), he/she seems stuck (e.g. doesn't know exactly how to make these clouds) but, nevertheless, will not provide his/her parent with any clear signals (verbal or non-verbal) as to how stuck and needing the parent's assistance he/she is. A responsive and facilitative parent will be able to "pick up" that his/her child is stuck in not knowing what to do in the task, and will provide assistance to child even if not requested to do it (e.g. he/she starts moulding playdough in order to model the white clouds and/or will provide practical advice to child on how to make clouds by himself/herself).

g) ***Encouraging/Promoting Autonomy*** – responsive parents will perform behaviours and/or make verbalisations in order to encourage their children to perform actions by themselves. As child manifests his/her efforts in order to achieve his/her aims regarding the task, his/her sense of competence and autonomy will be promoted by an encouraging parent (e.g. in the Lego task, child is trying to stick a piece in order to build the Lego man but it slips off, and parent says: "I know it's hard but I know you can do it!").

h) ***Warmth*** – refers to the affectionate style of the parent (i.e. how he/she affectionately acts with his/her child during the interaction). There must be signs of close proximity with the child, caring/loving looks towards the child and encouraging comments. These displays and expressions (physical or verbal) of positive emotion can be exemplified as:

- Parent makes enthusiastic comments and remarks to his/her child such as <u>praise</u> (e.g. Well done!) and <u>encouraging remarks</u> (e.g. I know you can do it!). Again, this is a parent that is affectionate by being alert to what child is doing and praising the child for his/her achievements. Besides these two types of positive verbalisations, we would suggest the integration of further codes such as:

1. Positive descriptions of the child (e.g. "You are a clever girl");
2. Parent overtly announces his/her positive feelings about his/her child (e.g. "I love you dear").
3. Parent's verbalisations express the pleasure he/she has in playing together with her child and/or that he/she is taking pleasure in the child's company (e.g. parent says to child: "I enjoy playing this game with you, dear"; "It's so funny when we do this together"). In other words, this is a parent whose motivation is positive enough to allow him/her to be immersed in his/her child's world and taking pleasure from the experience.

-Positive facial expressions (directed at child): laughter, smiling, funny faces, etc.
-Positive bodily gestures (directed at child): hugs, strokes, affectionate squeezes, kissing, affectionate patting, etc.

Scores:

1 – *Unresponsive/Insensitive Parent.*

Note: There has to be: a) clear pervasiveness (i.e. presence for most of the time) of absence of responsive behaviours displayed by the parent as defined above; or b) one modest example of responsiveness against a background of pervasive and intense non-responsiveness. Specific examples are shown below:

a) Parent does not respond to the child's verbal or non-verbal seeking behaviours. Example: child picks up several pieces of Lego, looking at the parent frequently as if trying to make sense of what to do with the several pieces he has picked up and the parent does not make a responsive comment or does not offer responsive instrumental help attuned to the child's needs (e.g. in this case, there is lack of paternal/maternal responsive help so that child can understand what to do with the toys).
b) Disengaged parent. Example: during the play, parent is silent most of the time, is passive towards the play not taking the initiative to interact with the child and, if child does not "invite" the parent to play with her/him, the parent will accept this type of "arrangement" keeping himself/herself distanced and dismissed from what the child is doing. On the other hand, the parent can be very talkative but, nevertheless is still unresponsive to child.
c) Absence of Child Mindedness. Example: In a situation where the child shows obvious signs of frustration or boredom with regards to the task in hand, his/her parent does not comment on this emotional state.
d) No Facilitation. Example: The parent does not encourage the child to perform an activity if it's obvious to the observer that the child is able to do it alone. Also, if the child presents the parent with some ideas as to how to move the play along, the parent will not provide support to the child's ideas.
e) No warmth. The parent's affectionate style toward the child is completely neutral. Example: the child presents the parent with a "new" playdough toy that he/she built by his/her own, smiling at the parent at the same time and he/she ignores such warm/enthusiastic behaviour by the child.

2 – *Minimally Responsive/Sensitive Parent.*

Note: The degree of pervasiveness and the degree of intensity (e.g. clear/unambiguous signs of responsiveness) indicates predominantly non-responsive behaviours toward the child; a '2' differs from a '1' in showing at least two modest examples of responsive behaviours amidst a general pattern of non-responsive behaviours. Example: even if all the above elements constitutive of this dimension of "Responsiveness/Sensitivity" are not present during the entire interaction, this is a parent that was responsively engaged (weak/modest example) at least twice at some point during the play.

3 – *Fairly Responsive/Sensitive Parent.*

Note: This parent will provide some scattered evidence of responsive behaviours but these won't constitute strong/obvious signs of a responsive attitude. Overall, he/she is more non-responsive than responsive; or he/she

shows two strong examples of sensitive responsiveness (e.g. warmth) amidst a strong pattern of insensitive responsiveness.

4 – *Somewhat Responsive/Sensitive Parent.*

Note: The intensity/frequency in which responsive behaviours are displayed is balanced by the intensity/frequency in which non-responsive behaviours are displayed. Thus, several examples of responsive behaviours will be balanced with several examples of non-responsive behaviours. The overall impression would be that this is a parent that is partly responsive and partly non-responsive; neither style dominates. There is unpredictability and inconsistency in parental responsiveness; or, clear examples of responsive behaviours are offset by clear examples of non-responsive behaviours. Example: A parent that, albeit showing several signs of warmth toward his/her child, provides several behavioural cues as to how disengaged he/she is regarding his/her child's activity.

5 – *Good Responsive/Sensitive Parent.*

Note: There is an overall pattern in which responsive behaviours are greater/more prominent than non-responsive behaviours. Thus, the general style is responsive. The examples of responsive behaviours are clear examples and unambiguous. These, however, are offset by modest or infrequent examples of non-responsive behaviours. Example: generally, parent provides child with assistance, facilitates his/her actions and is warm but, even if in fewer instances, he/she also seems disengaged and not child-focused.

6 – *Very Good Responsive/Sensitive Parent.*

Note: There has to be a consistent pattern where episodes of responsive behaviour are displayed. This is a parent that consistently shows signs of responsiveness as defined above. However, although consistently exhibiting signs of responsiveness, there may be at least one example where responsive behaviour might be expected but is not seen; or, there will be clearer examples of responsive behaviour, but mild evidence of non-responsive behaviour. Example: Parent consistently provides: a) assistance to child's verbal or non-verbal seeking behaviour, b) engagement, c) facilitation and d) warmth.

7 – *Extremely Responsive/Sensitive Parent.*

Note: This parent must either display all the above criteria or those that are displayed must be extreme manifestations of responsive behaviour. The various types of responsive behaviours are pervasive and completely unambiguous to the observer.

1	**2**	**3**	**4**	**5**	**6**	**7**
Unresponsive/ Insensitive Parent	*Minimally Responsive / Sensitive Parent*	*Fairly Responsive /Sensitive Parent*	*Somewhat Responsive /Sensitive Parent*	*Good Responsive /Sensitive Parent*	*Very Good Responsive/ Sensitive Parent*	*Extremely Responsive/ Sensitive Parent*

2. <u>Parent's Positive Affect</u>

Displays of positive affect refer to the parent's general positive mood. This is a trait of the parent himself/herself and not just the way in which he/she interacts with his/her child, although this will contribute to the assessment of mood.

Consider here *how* and *when:*

a) The parent's mood is clearly positive. Thus, he/she seems to be happy. Examples: parent clearly smiles and keeps a "happy face" and seems to be enjoying himself/herself;
b) Parent shows enthusiasm. The presence of enthusiasm is scored as positive affect where it is clear to the observer that there are signs of "happiness" (e.g. smiles). Therefore, a parent that is enthusiastically engaged in his/her "own" play, but shows flat mood and neglects or ignores his/her child's play, can still score high in positive affect.
c) There is positive affect conveyed in the way the parent verbally responds to his/her child. Example: if child makes a funny statement, the parent will laugh and/or smile and will possibly extend the joke by making further positive/funny remarks about what the child has said.
d) Parent's vocal quality/tone of voice conveys positive affect such as: happiness, pleasure, and enthusiasm.

Scores:

1 – *No Positive Affect*

Note: There has to be clear pervasiveness of absence of positive affect by the parent as defined above. Specific examples are shown below:

a) <u>Parent's mood is neutral</u>. Example: this parent does not show signs of either being happy or unhappy throughout the interaction. He/she acts like if in an "automaton" type of mood where no signs of positive or negative mood can be picked up. Instead, his/her mood is just absent (e.g. he/she acts like a "robot", no feelings incorporated).
b) <u>Absence of enthusiasm.</u>
c) Absence of positive affect in parent's responses to child's overtures.
d) Absence of parent's vocal quality/tone of voice that conveys positive affect such as: happiness, pleasure, and enthusiasm.

NOTE – The word "absence" is used in the above description as an equivalent to "neutral" affect and not as the equivalent of the opposite to positive affect, which will be negative affect. Thus, a 1 scored-parent in this category is not a parent who displays negative affect towards his/her child. Instead, this is a parent who does not show signs of ANY type of affect, either positive or negative. However, because this is a score incorporated in the "Parent's Positive Affect" dimension of this scale, "neutral affect" here means "absence of behavioural and/or verbal signs of positive affect by the parent".

2 – *Minimal Positive Affect.*

Note: The degree of pervasiveness and the degree of intensity (e.g. clear/unambiguous signs of positive affect) indicates predominantly lack of positive affect by the parent; a '2' differs from a '1' in showing one or two mild examples of positive affect amidst a general pattern of neutral affect. Example: even if all the above elements constitutive of

this dimension of "Positive Affect" are not present during the entire interaction, this is a parent that smiled (weak/modest example) once or twice at some point during the play.

3 – *Fairly Positive Affect.*

Note: Generally, this parent can be considered as a little bit more neutral in affect rather than showing positive affect. Thus, this parent will provide some scattered evidence of some examples of positive affect but these won't constitute strong evidence of positive affect; or he/she shows two strong examples of positive affect (e.g. laughs) amidst a strong pattern of flat/neutral affect. Therefore, this parent displays positive affect in few instances but overall he/she wasn't providing clearer examples of positive affect.

4 – *Somewhat Positive Affect*

Note: The intensity/frequency in which positive affect is displayed is balanced by the intensity/frequency in which neutral affect is displayed. Thus, several examples of positive affect will be balanced with several examples of neutral affect. The overall impression would be that this is a parent that partly shows positive affect and partly shows neutral affect. Example: A parent that, albeit smiling several times if child makes a joke, provides several examples of flat affect.

5 – *Good Positive Affect.*

Note: There is an overall pattern in which displays of positive affect are greater/more prominent than neutral affect. Generally, there is evidence of positive affect by the parent throughout the interaction. The examples of positive affect are clear examples and unambiguous. These, however, are offset by modest or infrequent examples of neutral affect. Example: generally, parent smiles, has a positive tone of voice and has a positive mood but, even if in fewer instances, he/she also seems to lack enthusiasm. A score of 5 is given when there is clear evidence of spontaneity in parent's positive mood. This is a parent that does not need to be driven in order to show signs of happiness throughout the play interaction. In addition, positive affect is still scored whether or not the parent's positive emotional state is directly related with the play itself.

6 – *Very Good Positive Affect.*

Note: There has to be a consistent pattern where episodes of positive affect are displayed. This is a parent that consistently shows signs of positive affect as defined above. However, although consistently exhibiting signs of positive affect, there may be at least one example where positive affect might be expected but is not seen (e.g. child makes a joke and parent doesn't respond with positive affect). Thus, parent consistently shows more intense examples of: a) positive mood, b) enthusiasm, and c) positive tone of voice.

7 – *Extreme Positive Affect.*

Note: This parent must either display all the above criteria or those that are displayed must be extreme manifestations of positive affect. The presence of positive affect is pervasive and completely unambiguous to the observer.

1	-	**2**	-	**3**	-	**4**	-	**5**	-	**6**	-	**7**
No Positive Affect		*Minimal Positive Affect*		*Fairly Positive Affect*		*Somewhat Positive Affect*		*Good Positive Affect*		*Very Good Positive Affect*		*Extreme Positive Affect*

3. **Parent's Negative Affect**

Displays of negative affect refer to the parent's general negative mood. This is a trait of the parent himself/herself and not just the way in which he/she interacts with his/her child, although this will contribute to the assessment of mood.

Consider here *how* and *when:*

a) The parent's mood is clearly negative. This can be shown by either:

   1. Negative facial expressions: seriousness, frowning, angry faces, etc; and/or:
   2. Negative bodily gestures: pulling, slapping, smacking, shaking, keeping distance from child as in avoiding interaction with him/her, etc.

b) Parent shows lack of enthusiasm. This parent is lacking interest/detached/dismissive.

c) Parent is grumpy and/or there is negative affect in his/her overtures (i.e. either parent is critical and/or rejecting). Examples are illustrated below:

   1) Parent's verbalisations express the lack of pleasure he/she feels (e.g. "This is boring").
   2) Parent makes discouraging comments to child (e.g. I don't think you can do that).
   3) Parent makes critical remarks (e.g. You're a silly girl!)
   4) Parent overtly announces his/her negative feelings (e.g. "I am angry at you").
   5) Threatening comments (e.g. "I'll smack you if you say that again!").

d) Parent's vocal quality/tone of voice conveys negative affect such as: mocking, sarcasm, irritation and hostility.

Scores:

1 – *No Negative Affect*

Note: There has to be clear pervasiveness of absence of negative affect by the parent as defined above. Specific examples are shown below:

a) Parent's mood is neutral. Example: this parent does not show signs of either being happy or unhappy throughout the interaction. He/she acts like if in an "automaton" type of mood where no signs of positive or negative mood can be picked up. Instead, his/her mood is just absent (e.g. he/she acts like a "robot", no feelings incorporated).

b) Absence of lack of enthusiasm.

c) Absence of negative affect in parent's responses to child (e.g. parent is not critical throughout interaction).

d) Absence of parent's vocal quality/tone of voice that conveys negative affect such as: mocking, sarcasm, irritation and hostility.

NOTE – The word "absence" is used in the above description as an equivalent to "neutral" affect and not as the equivalent of the opposite to negative affect, which will be positive affect. Thus, a 1 scored-parent in this category is not a parent who displays positive affect towards his/her child. Instead, this is a parent who does not show signs of ANY type of affect, either positive or negative. However, because this is a score incorporated in the "Parent's Negative Affect" dimension of this scale, "neutral affect"

here means "absence of behavioural and/or verbal signs of negative affect by the parent".

2 – *Minimal Negative Affect.*

Note: The degree of pervasiveness and the degree of intensity (e.g. clear/unambiguous signs of negative affect) indicates predominantly lack of negative affect by the parent; a '2' differs from a '1' in showing one or two mild examples of negative affect amidst a general pattern of neutral affect. Example: even if all the above elements constitutive of this dimension of "Negative Affect" are not present during the entire interaction, this is a parent that was critical (weak/modest example) once or twice at some point during the play.

3 – *Fairly Negative Affect*

Note: Generally, this parent can be considered as a little bit more neutral in affect rather than showing negative affect. Thus, this parent will provide some scattered evidence of some examples of negative affect but these won't constitute strong evidence of negative affect; or he/she shows two strong examples of negative affect (e.g. shouts) amidst a strong pattern of neutral affect. Therefore, this parent displays negative affect in few instances but overall he/she wasn't providing clearer examples of negative affect.

4 – *Somewhat Negative Affect*

Note: The intensity/frequency in which negative affect is displayed is balanced by the intensity/frequency in which neutral affect is displayed. Thus, several examples of negative affect will be balanced with several examples of neutral affect. The overall impression would be that this is a parent that partly shows negative affect and partly shows neutral affect. Example: A parent that, albeit having a negative tone of voice several times when talking, provides several examples of flat affect.

5 – *Fair Amount of Negative Affect.*

Note: There is an overall pattern in which displays of negative affect are greater/more prominent than neutral affect. Generally, there is evidence of negative affect by the parent throughout the interaction. The examples of negative affect are clear examples and unambiguous. These, however, are offset by modest or infrequent examples of neutral affect. Example: generally, parent is critical, has a negative tone of voice and has negative mood but, even if in fewer instances, he/she also seems enthusiastic. A score of 5 is given when there is clear evidence of spontaneity in parent's negative mood. This is a parent that does not need to be driven in order to show signs of irritability, detachment throughout the play interaction. In addition, negative affect is still scored whether or not the parent's negative emotional state is directly related with the play itself.

6 – *Very Negative Affect*

Note: There has to be a consistent pattern where episodes of negative affect are displayed. This is a parent that consistently shows signs of negative affect as defined above. However, although consistently exhibiting signs of negative affect, there may be at least one example where negative affect might be expected but is not seen. Example: Parent consistently shows: a) negative mood, b) lack of enthusiasm, c) negative tone of voice but will not exhibit signs of criticism/rejection during the interaction.

7 – Intense Negative Affect

Note: This parent must either display all the above criteria or those that are displayed must be extreme manifestations of negative affect. The presence of negative affect is pervasive and completely unambiguous to the observer.

1	-	**2**	-	**3**	-	**4**	-	**5**	-	**6**	-	**7**
No Negative Affect		*Minimal Negative Affect*		*Fairly Negative Affect*		*Somewhat Negative Affect*		*Fair Amount of Negative Affect*		*Very Negative Affect*		*Intense Negative Affect*

3. **Child's Positive Affect**

Displays of positive affect refer to the child's general positive mood. This is a trait of the child himself/herself and not just the way in which he/she interacts with his/her parent, although this will contribute to the assessment of mood.

Consider here *how* and *when:*

a) The child's mood is clearly positive. Thus, he/she seems to be happy. Examples: child clearly smiles and keeps a "happy face".
b) Child is enthusiastic. The presence of enthusiasm is scored as positive affect where it is clear to the observer that there are signs of "happiness" (e.g. smiles). Therefore, a child that is enthusiastically engaged in a different task rather than in playing with his/her parent, can still score high in positive affect.
c) There is positive affect conveyed in the way child verbally responds to his/her parent. Example: if parent makes a funny statement, child will laugh and/or smile and will possibly extend the joke by making further positive/funny remarks.
d) Child's vocal quality/tone of voice conveys positive affect such as: happiness, pleasure, and enthusiasm.

Scores:

1 – *No Positive Affect*

Note: There has to be clear pervasiveness of absence of positive affect by the child as defined above. Specific examples are shown below:

a) Child's mood is neutral. Example: this child does not show signs of either being happy or unhappy throughout the interaction. He/she acts like if in an "automaton" type of mood where no signs of positive or negative mood can be picked up. Instead, his/her mood is just absent (e.g. he/she acts like a "robot", no feelings incorporated)
b) Absence of enthusiasm
c) Absence of positive affect in child's responses to parent's overtures.
d) Absence of child's vocal quality/tone of voice that conveys positive affect such as: happiness, pleasure, and enthusiasm.

NOTE – The word "absence" is used in the above description as an equivalent to "neutral" affect and not as the equivalent of the opposite to positive affect, which will be negative affect. Thus, a 1 scored-child in this category is not a child who displays negative affect towards his/her parent. Instead, this is a child who does not show signs of ANY type of affect, either positive or negative. However, because this is a score incorporated in the "Child's Positive Affect"

dimension of this scale, "neutral affect" here means "absence of behavioural and/or verbal signs of positive affect by the child".

2 - *Minimal Positive Affect.*

Note: The degree of pervasiveness and the degree of intensity (e.g. clear/unambiguous signs of positive affect) indicates predominantly lack of positive affect by the child; a '2' differs from a '1' in showing one or two mild examples of positive affect amidst a general pattern of neutral affect. Example: even if all the above elements constitutive of this dimension of "Positive Affect" are not present during the entire interaction, this is a child that smiled (weak/modest example) once or twice at some point during the play.

3 – *Fairly Positive Affect.*

Note: Generally, this child can be considered as a little bit more neutral in affect rather than showing positive affect. Thus, this child will provide some scattered evidence of some examples of positive affect but these won't constitute strong evidence of positive affect; or child shows two strong examples of positive affect (e.g. laughs) amidst a strong pattern of neutral affect. Therefore, this child displays positive affect in few instances but overall he/she wasn't providing clearer examples of positive affect.

4 – *Somewhat Positive Affect*

Note: The intensity/frequency in which positive affect is displayed is balanced by the intensity/frequency in which neutral affect is displayed. Thus, several examples of positive affect will be balanced with several examples of neutral affect. The overall impression would be that this is a child that partly shows positive affect and partly shows neutral/flat affect. Example: A child that, albeit smiling several times if his/her parent makes a joke, provides several examples of neutral affect.

5 – *Good Positive Affect.*

Note: There is an overall pattern in which displays of positive affect are greater/more prominent than neutral affect. Generally, there is evidence of positive affect by the child throughout the interaction. The examples of positive affect are clear examples and unambiguous. These, however, are offset by modest or infrequent examples of neutral affect. Example: generally, child smiles, has a positive tone of voice and has positive mood but, even if in fewer instances, he/she also seems to lack enthusiasm. A score of 5 is given when there is clear evidence of spontaneity in child's positive mood. This is a child that does not need to be driven in order to show signs of happiness, bubbliness throughout the play interaction. In addition, positive affect is still scored whether or not the child's positive emotional state is directly related with the play itself.

6 – *Very Good Positive Affect.*

Note: There has to be a consistent pattern where episodes of positive affect are displayed. This is a child that consistently shows signs of positive affect as defined above. However, although consistently exhibiting signs of positive affect, there will be at least one example where positive affect might be expected but is not seen, even though he/she has been given the opportunity to do so (e.g. parent makes a joke and child doesn't respond with positive affect). Thus, child consistently shows: a) positive mood, b) enthusiasm, c) positive tone of voice but, on one non-trivial occasion, will not respond to his/her parent's overtures in a way that conveys positive affect/happiness.

*7 – **Extreme Positive Affect***

Note: This child must either display all the above criteria or those that are displayed must be extreme manifestations of positive affect. The presence of positive affect is pervasive and completely unambiguous to the observer.

1	-	2	-	3	-	4	-	5	-	6	-	7
No Positive Affect		*Minimal Positive Affect*		*Fairly Positive Affect*		*Somewhat Positive Affect*		*Good Positive Affect*		*Very Good Positive Affect*		*Extreme Positive Affect*

5. **Child's Negative Affect**

Displays of negative affect refer to the child's general negative mood. This is a trait of the child himself/herself and not just the way in which he/she interacts with his/her parent, although this will contribute to the assessment of mood.

Consider here *how* and *when:*

a) The child's mood is clearly negative. This can be shown by either:

1.Negative facial expressions: seriousness, frowning, angry faces, etc; and/or:
2.Negative bodily gestures: pulling, slapping, smacking, shaking, keeping distance from the parent as in avoiding interaction with him/her, etc.

b) Child lacks enthusiasm. This child is disinterested/detached.
c) Child shows negative affect in her responses to his/her parent (i.e. either child is critical and/or rejecting). Examples are illustrated below:

1) Child's verbalisations express the lack of pleasure he/she feels (e.g. "This game is boring")
2) Child makes discouraging comments (e.g. child pushes parent's hand away when he/she tries joining in play and child says: "Don't!...I'm doing it myself!").
3) Child makes critical remarks (e.g. You're silly!)
4) Child overtly announces his/her negative feelings (e.g. "I don't like this anymore").
5) Child's threatening comments (e.g. "If you touch my playdough I'll scream!").

d) Child's vocal quality/tone of voice conveys negative affect such as: mocking, sarcasm, irritation and hostility.

Scores:

1 – *No Negative Affect*

Note: There has to be clear pervasiveness of absence of negative affect by the child as defined above. Specific examples are shown below:

a) Children's mood is neutral. Example: this child does not show signs of either being happy or unhappy throughout the interaction. He/she acts like if in an "automaton" type of mood where no signs of positive or negative mood can be picked up. Instead, his/her mood is just absent, (e.g. he/she acts like a "robot", no feelings incorporated).
b) Absence of lack of enthusiasm.
c) Absence of negative affect in child's responses to his/her parent (e.g. child is not critical/rejecting throughout interaction).
d) Absence of child's vocal quality/tone of voice that conveys negative affect such as: mocking, sarcasm, irritation and hostility.

NOTE – The word "absence" is used in the above description as an equivalent to "neutral" affect and not as the equivalent of the opposite to negative affect, which will be positive affect. Thus, a 1 scored-child in this category is not a child who displays positive affect towards his/her parent. Instead, this is a child who does not show signs of ANY type of affect, either positive or negative. However, because this is a score incorporated in the "Child's Negative Affect" dimension of this scale, "neutral affect" here means "absence of behavioural and/or verbal signs of negative affect by the child".

2 - *Minimal Negative Affect.*

Note: The degree of pervasiveness and the degree of intensity (e.g. clear/unambiguous signs of negative affect) indicates predominantly lack of negative affect by the child; a '2' differs from a '1' in showing one or two mild examples of negative affect amidst a general pattern of neutral affect. Example: even if all the above elements constitutive of this dimension of "Negative Affect" are not present during the entire interaction, this is a child that kept physical distance from the parent (weak/modest example) once or twice at some point during the play.

3 - *Fairly Negative Affect*

Note: Generally, this child can be considered as a little bit more neutral in affect rather than showing negative affect. Thus, this child will provide some scattered evidence of some examples of negative affect but these won't constitute strong evidence of negative affect; or child shows two strong examples of negative affect (e.g. whining tone of voice) amidst a strong pattern of neutral affect. Therefore, this child displays negative affect in few instances but overall he/she wasn't providing clearer examples of negative affect.

4 – *Somewhat Negative Affect*

Note: The intensity/frequency in which negative affect is displayed is balanced by the intensity/frequency in which neutral affect is displayed. Thus, several examples of negative affect will be balanced with several examples of neutral affect. The overall impression would be that this is a child that partly shows negative affect and partly shows neutral affect. Example: A child that, albeit having a negative tone of voice several times when talking, provides several examples of flat affect.

5 – *Fair Amount of Negative Affect.*

Note: There is an overall pattern in which displays of negative affect are greater/more prominent than neutral affect. Generally, there is evidence of negative affect by the child throughout the interaction. The examples of negative affect are clear examples and unambiguous. These, however, are offset by modest or infrequent examples of neutral affect. Example: generally, child is critical, has a negative tone of voice and has negative mood but, even if in fewer instances, he/she also seems to be enthusiastic. A score of 5 is given when there is clear evidence of spontaneity in child's negative mood. This is a child that does not need to be driven in order to show signs of irritability, detachment throughout the play interaction. In addition, negative affect is still scored whether or not the child's negative emotional state is directly related with the play itself.

6 – *Very Negative Affect*

Note: There has to be a consistent pattern where episodes of negative affect are displayed. This is a child that consistently shows signs of negative affect as defined above. However, although consistently exhibiting signs of negative affect, there will be at least one example where negative affect is expected but not seen. Example: child consistently shows: a) negative mood, b) lack of enthusiasm, c) negative tone of voice but will not exhibit signs of criticism/rejection during the interaction.

7 - *Intense Negative Affect*

Note: This child must either display all the above criteria or those that are displayed must be extreme manifestations of negative affect. The presence of negative affect is pervasive and completely unambiguous to the observer.

1	**2**	**3**	**4**	**5**	**6**	**7**
No Negative Affect	*Minimal Negative Affect*	*Fairly Negative Affect*	*Somewhat Negative Affect*	*Fair Amount of of Negative Affect*	*Very Negative Affect*	*Intense Negative Affect*

6. **Mutuality**

This code is a dyadic-based one. The intention is to code the quality of the interaction between parent and child but seeing both of them as an unique feature of the relationship (i.e. parent and child interacting are not separate things!).

Major behavioural cues to look at when trying to code mutuality would be:

a) Child initiated activity and involving parent in. There has to be clear evidence that as the child initiates an activity of his/her own agenda, he/she will spontaneously "invite" the parent in order to take part in the play and/or it will be clear to the observer that as the child starts playing with the toys, he/she will feel comfortable if parent gets involved in his/her play (e.g. child starts building up a "yellow playdough man" and gives a yellow piece to the parent in order to help him and/or will accept a piece that the parent is providing him/her with in order to build the toy);

b) Both parent and child playing together through "Interactive-Reciprocal Play/turn-taking (i.e. instead of playing separately as a parallel activity, both parent and child coordinate their efforts by building on each other's input in order to move the play along, thus reaching together a certain result). In summary, both parent and child are playing together and responding to each other's activities, either verbally or non-verbally;

c) Shared attention through appropriate eye contact and/or attentiveness to each others' comments and actions regarding the play (this is not simply the equivalent to looking at what the other one is doing, instead, it has to seem obvious to the observer that both parent and child are thinking about the same thing while looking at one another and being attentive to what each other is saying or doing regarding the play);

d) Appropriate Positive Affect-matching: e.g. if child looks at the parent smiling. the parent reciprocates this same behaviour immediately or with a complementary behaviour such as smoothly patting the child in the head;
e) Mirroring/matching: parent and child match/imitate each other's behaviours and/or verbalisations while playing. This behaviour will provide the observer with the sense that both parent and child are having fun during the interaction and learning from one another while playing. It's a type of modelling behaviour from both "partners" that, in the context of the interaction, work as a "team" in order to embellish the play, thus keeping the "pleasurable joint activity" going;
f) Fluid conversation: this is the opposite of moments of "dead air" (i.e. moments of silence). Both parent and child should keep a joint conversation on what they're doing together. Comments by the parent are not ignored by the child and vice-versa; or the parent and the child do not to follow "different directions" in discussion.
g) Coordinated/Shared Body Orientation: parent and child keep closeness to each other, their bodies are coordinated/oriented towards one another during the activity. They don't seem to "go or stay somewhere else" separately (e.g. parent and child are facing one another closely enough in order to exchange necessary amount of toys in order to build something, instead of having a parent seated in a sofa and distant from child while the latter is on the floor not even facing the parent while playing).

Scores

1 – *No Mutuality.*

Note: There has to be clear pervasiveness of absence of mutual behaviours elicited by the dyad as defined above. Specific examples are shown below:

a) No child initiated activity with parental involvement. Example: child waits for parent to give him/her a "prompt" in order to start playing, and once the child gets to do what parent told him/her to do, the child will start playing without inviting the parent. In addition, the parent, will not make an effort in terms of being "accepted in the play" by his/her child, and will start playing with a different toy instead.
b) There is no Interactive-reciprocal play/turn-taking. Example: once parent and child start playing at a separate level, they will continue playing separately as if doing a parallel activity. Both parent and child do not co-ordinate their efforts in order to move the play along. Both seem to want to reach different results from the play rather than aiming at a common goal to which they would have to work together.
c) No shared attention. There is no eye contact and/or there is a lack of attentiveness to each other's comments and actions regarding the play. Both may make comments or actions and may look at what the other one is doing but not in a reciprocal way.
d) No Appropriate Positive Affect-matching: e.g. if child looks at the parent smiling, the parent does not reciprocate with the same or a complementary behaviour.
e) No Mirroring/matching: parent and child do not match/imitate each other's behaviours and/or verbalisations while playing. Thus, they seem not to be having fun or taking any pleasure from the play interaction and both seem not to be interested in learning from one another while playing. There is no "team work" in order to embellish the play or keep the joint activity going.
f) No fluid conversation. The interaction is infused by "dead air" (i.e. moments of silence). Both parent and child do not keep a joint conversation on what they're doing together. Comments by the parent are ignored by the child and vice-versa obscuring the quality of the interaction, giving place to disengagement (either from the parent and/or the child), or making either the parent or the child to follow "different directions" with regard to the task in hand (i.e. parallel play) and ignoring what each other is doing during the course of the interaction.
g) No Coordinated/Shared Body Orientation: parent and child keep a distance between themselves, their bodies are not co-ordinated and/or oriented towards one another

during the activity. They seem to "go or stay somewhere else" separately (e.g. while parent is seated facing the child this one is facing backwards to parent and stands up several times if distracted).

2 - *Minimal Mutuality.*

Note: There is pervasive non-mutuality, but slight evidence of mutuality (whereas a '1' is a total absence of Mutuality, '2' is scored when there is at least one clear but modest example). There are several examples of what constitutes 'minimal'; in general, each example indicates that the dyad provides slight evidence that they are working together or otherwise show some slight connection/interdependence with each other. That may be expressed in terms of *cooperating with one another* in order to reach a common goal, [NB: although this scale is not about the dyad's ability to reach a goal as such; instead, it is *how* they work together in reaching the goal, cooperatively versus in a parallel manner]. For example, the dyad might exchange/share play pieces on 1-2 occasions but otherwise either not engage with one another or engage in a non-mutual way (e.g., intrusive, parent-centred manner). Turn-taking in play can be a very helpful clue when coding mutuality insofar as it shows that members of the dyad can think about the other when choosing what to do. Turn-taking is the ability of the dyad to reciprocate interactions in which it is clear that, for example, what A does influences B's reaction to A, which in turn shapes how A responds back to B (by definition, we are considering only *positive* instances of turn-taking and not, e.g. reciprocated anger/conflict/coercive cycles). That is, there is a clear instance in which the dyad has a reciprocal interchange or dialogue. There are other instances in which a '2' may be coded: any instance in which there is brief, modest, and/or minimal evidence of one of the indicators of mutuality as set out in the definition.

3 - *Fair Mutuality.*

Note: Generally, this dyad is more non-mutual than mutual. Thus, this dyad will provide scattered evidence (i.e., 3 or more clear but modest examples) of mutual behaviours; or, there is somewhat better than scattered evidence/modest examples of mutuality but there are also several clear examples of strong non-mutual behaviours (parent self-centred play, shunning the other's involvement or suggestion). Example: Although this dyad turn-takes when playing with playdough on several (3-plus) occasions, both parent and child typically play "separately" from or parallel to one another, doing different things throughout the interaction. In terms of the reciprocated/turn-taking interaction described above, a '3' is scored if there are several modest/weak instances of reciprocated positive interchanges.

4 – *Medium Mutuality.*

Note: The intensity/frequency in which mutual behaviours are displayed is balanced by the intensity/frequency in which non-mutual behaviours are displayed. Thus, several examples of mutual behaviours will be balanced with several examples of non-mutual behaviours. The overall impression would be that this is a dyad that is partly behaving mutually and partly behaving non-mutually. Example: A dyad that, albeit showing several signs of positive shared affect, provides several behavioural cues as to how both parent and child play at a separate/parallel level, where no interactive-reciprocal play or turn-taking takes place during the interaction.

5 – *Good Mutuality.*

Note: There has to be an overall pattern where more mutual behaviours are displayed than non-mutual behaviours. Thus, the general style is mutual. These examples of mutual behaviours provide strong evidence of mutuality. However, there are also modest signs of non-mutual behaviours. Example: generally, there is child initiated

activity with parental involvement, reciprocity/turn-taking, positive affect-matching and shared-attention but, even if in fewer instances, the dyad also seems not to display matching/imitation or has difficulties in keeping a fluid conversation and in keeping a coordinated/shared body orientation.

6 – Very Good Mutuality.

Note: There has to be a consistent pattern where episodes of mutual behaviour are displayed. This is a dyad that consistently shows signs of mutuality as defined above. However, although consistently exhibiting signs of mutuality, there will be at least one example where mutual behaviour is expected but not seen; or despite pervasive and clear evidence of mutuality, there is a slight indication of non-mutuality. Example: dyad consistently shows: a) child initiated activity with parental involvement, b) reciprocity, c) shared attention, d) positive affect-matching, e) fluid conversation and f) coordinated/shared body orientation but will not exhibit signs of mirroring/imitation during the interaction.

7 – Extreme Mutuality.

Note: This dyad must either display all the above criteria or those mutual behaviours that are displayed must be extreme manifestations of mutuality. The various types of mutual behaviours are pervasive and completely unambiguous to the observer.

1	-	**2**	-	**3**	-	**4**	-	**5**	-	**6**	-	**7**
No Mutuality		*Minimal Mutuality*		*Fair Mutuality*		*Medium Mutuality*		*Good Mutuality*		*Very Good Mutuality*		*Extreme Mutuality*

Appendix G.1.

Parent Behavioural Coding Scheme

(PBCS)

Contents

General Coding Information

- Replies to child questions are not coded. Statements that subsequently follow the parents' initial reply are codable.

  e.g. ***C - Is this the one?***
  P – Yes, put it there. Start building it now. (Not scored, α)

However, the reply to the child's question *can* be coded if it is:

- Praise	-Commands that do not reply to child's question.
- Criticism (Cr)	e.g. C- "Mum where is the white playdough?" – P: "You have to put the red playdough over there" (ie. Mum's response is unrelated to child's previous question).

- All statements scored should be about or relate to the child. Unrelated statements (i.e. those that relate exclusively to persons or things other than the child) are not scored unless the child is included as in statements using the form 'we'.

  e.g. ***'We must tidy up now' (β)***
  'I must put those away' (not coded)
  'We won't spill it today'(β) (This is not a Prohibition (D) even though won't is used because the child hasn't started the action) – i.e. Prohibitions should be contingent on child's actions and NOT referring to general predictions of "future actions" as in the case above. These specific cases should be coded instead as *β* commands.

- Parental statements which solely concern the parent's own activities, products etc. are not scored. Instances in which the parent describes what they are doing, in order to demonstrate something to the child, are not considered to relate to the child or their activities and are considered not scorable.

  e.g. ***'You sit them there like that, then you push their hands down.'***
  (during parent's demonstration to the child) (Not Scored)
  'You push their hands down' (Parent is not engaged in the activity, and is therefore directing the child) (α)

- Only those parental statements which refer to child behaviours which could occur (or fail to, in the case of child non-compliance) during the observation period are considered to be scorable. Those statements which are concerning behaviours which may have, or are going to, occur outside of the observation period are not considered scorable. The only exception to this is in the case of Positive Attends (+) and Criticism (Cr) **or Praise (P)** for which parental statements *are coded* if they relate to child behaviours which occurred outside the observation period.

  e.g. ***'You will have to get changed before we go out this afternoon.' (Not Scored)***
  'You were a really good girl last night.' (P)
  'You've got to tidy up after this.'(α)
  'You drew me a lovely picture this morning, didn't you?' (P, Not scored)
  'Yesterday you were horrible.' (Cr)

- Parental statements in which the parent is engaged in imaginative play with their child (i.e. pretending to do or be something) are scored as other parental verbalisations, except for commands given in-role by parents during pretend play, which are not scored.

  e.g. 'Make me a cup of tea please'(pretend) Not scored, since parent in role as guest and child as tea host.
  'Make me a snowman' (playing with playdough) (α) since parent and child are themselves.

- Questions are only coded if they are either an interrogative, a facilitation (autonomy-granting question), a seek co-operation **or a mental state**. That is, if the question is reflective, an attend in the form of a question, a question tag, a teach in the form of a question, or a request by the parent to join in the play, it is not coded.

  e.g. 'It's a horse.' (child)
  'A horse?' (parent)(reflective question- not coded)
  'May I play with those too?' (not coded)
  'Is it the same'? (after child chooses a lego piece which does not match the picture) (F)
  'That's a big house, isn't it? (A, not coded)
  'It's fun, isn't it?' (M, not coded)

- **"Need" Statements.**
  Parental Statements including 'need', can be coded as either α, β or F.

  e.g. 'You need to put the yellow brick on top of the red brick. (α - because it is clear and unambiguous command)
  'You need it to be longer.' (β - because it doesn't actually state an action)
  'It needs to be longer.' (F - referring to the amount of playdough child needs in order to do a shape)

THE CODING PROCESS

- If during coding and/or transcription the observer is unable to understand fully what has been said after listening to the verbalisation three times then they should consider it as non-scorable and continue to the next intelligible verbalisation.

Repeats

Where parents repeat themselves in succession each statement is considered individually scorable.

Incomplete questions/statements.

In those instances in which a parent fails to complete a verbalisation it is considered to be not scorable. Coders should not make any assumptions concerning the end of the verbalisation.

e.g. ***'Why don't you....?' (Not Scored)***
'Finish off the....' (Not Scored)

DIRECTIVES

Directive Alpha

Alpha commands refer to those parental requests for a child behavioural response which are clear and unambiguous in their meaning, such that the child can understand fully what is expected of them. It is necessary that the child is given sufficient opportunity (5 seconds) to comply to the parent's request for it to be coded as an Alpha command. If the command is clear but the child is not given sufficient opportunity to comply, the command is then considered to be a Beta command.

Alpha directives are commands that are precise, unambiguous and delivered in a manner which conveys that there is no choice for the child to make. The parent gives a clear, behaviour-specific instruction to the child. It is direct, with no hint of question in tone, and the expected actions from the child are clearly specified. If a child is given an Alpha directive and complies in less than 5 seconds it is still scored as Alpha. If a subsequent directive is given (even if it is less than 5 seconds after the first) and the child complies, it is also scored as an Alpha. Directives that start 'Shall we' where the parent has no intention of joining in are not scored as Alpha, and will usually be a SC as it is a Beta directive in question format. "Shall we" questions can be SC: "Shall we tidy up now?" – (parent has no intention to do it) but, depending on the context, they can also be Facilitations (F): "Shall we build that together?" (offering assistance to child and giving child the chance to choose whether or not he/she wants to be helped)

Occasionally, the parent gives a very rapid string of short (often one word) directives where it seems impossible for the child to comply in a meaningful way; an example seen not infrequently would be "See!" "Look!". In these circumstances the first directive should be coded as a Beta on the grounds that it would be impossible to comply meaningfully – just because the gaze was in that direction before the directive was given is not enough to indicate compliance.

Consequently those statements coded as an Alpha command will .....

* **not** be phrased as a question, which may imply that the child is being given a choice about whether she/he complies or not.

- specify the behaviour requested of the child (whether this request is for the child to commence, continue or cease the specified behaviour).

  An example of an alpha command specifying a request to cease a behaviour is 'Leave it alone.' (α)
  However, if the words 'don't', 'not' or 'stop' are used in order to cease an activity, then it would be coded as (D), as Prohibitions override Commands.

  e.g. 'Stop doing that now' (D)
  'Don't play with Lego anymore' (D)

This category includes:-

- **Direct Commands.**

  e.g. ***'Play with the blocks' (α)***
  'Look' (parent points to/holds up object to be looked at) (α)
  'You need to put the yellow brick there' (α)

'It needs to be longer' (F)

- **<u>Clear permission statements and rules</u>**

A rule is considered to be a clearly specified required behaviour which is phrased as a global expectation of behaviour.

Permission statements specify clear behaviours which the parent will or will not permit the child to do.

e.g. *'You may carry on playing now' (α)*
'You can use one of these' (α)
'There will be silence' (β)
'You will play with the tea-set' (α)

However, if there is a negative component in the phrase - e.g. 'no' then, the phrases would be coded as (D), as Prohibitions override commands.

E.g. *'There will be no more fighting' (D)*
There will be no more being naughty (D)
'You may not put that on there' (D)

Statements which fail to clearly define what the child is being given permission to do, or which qualify the permission they have given, are not scored as Alpha Directives.

e.g. *'Go on then.' (β)*
'You can cut it if you want to.' (F)

- **<u>If...then statements/warnings</u>**

These are statements which specify clearly the required behaviour, while also providing the child with a consequence they will experience which will follow their compliance or noncompliance to the requested behaviour. Parental statements which describe a contingent consequence of the child's behaviour which will occur in the environment and not specifically to the child themselves are considered to be Beta directives rather than Alpha. It should be noted that the requested behaviour and the contingent consequence are considered here to be a single semantic chunk and are coded as a single Alpha directive.

e.g. *'If you don't stop whining, I will send you to your room' (α)*
'If you tidy up now we can play another game' (α)
'John won't let you borrow his toys if you treat them like that' (α)
'If you put that on there it will break' (β) – (although it can be a Facilitate statement (F), remember that directives trump facilitates)
'If they don't slow down they will all fall off' (β)- (although it can be a Facilitate statement (F), remember that directives trump facilitates)

- **<u>More than one command.</u>**

If one clear directive follows another in under 5 seconds it is coded as *β* **unless** the child has complied with the first command.

e.g. *'Stand up and come over here' (β–no, α–C)* **(no child could stand up in half a second!)**

'Tidy up. Finish it quickly.' (α-C, α–C) (Note: the first command can only be an α–C, if the child has started to tidy up within the 5 seconds frame)
'Put the bricks away, and put the horse in the box' (α **if complies before second command,** *α–C)*
'Put the bricks away, do be tidy' ((α if complies before second command, β since it's a vague command

Directive Beta (β)

Beta directives refer to those parental requests for a child behavioural response which are vague or ambiguous in their meaning, such that the child may not fully understand what behaviour is expected of them; or more than one directive is made (less than 5 seconds apart) giving insufficient time for the child to respond. If the child is not given sufficient time to respond to the first directive and a second directive is given, the first is scored as a Beta; scoring for the second depends on usual criteria.

- **Vague commands and implied commands,**

  i.e. if the required behaviour is not clearly specified. This is when the parental request does not make any clear reference to the required behaviour but expects the child to infer the meaning they intended.

  e.g. ***'Be nice to your sister.'(β)***
  'Be good'(β)
  'It's got to be longer' (F –just, although close to being an aversive, vague, command)
  'It needs to be longer' (F – more unambiguously facilitative)
  'If you put that on there then it'll break' – (NOTE: although it can be a Facilitate statement (F), remember that directives trump facilitates – in this case it can be an α Command if it is clear for the child what the parent is referring to in terms of the warning given).
  'Billy, don't.'(D)
  'Just a minute.' (β)
  'Go on then' (β) (When not clear what child should do)
  'Look' (no clear indication of object to be looked at) (β)
  'Look' (α – if it is clear for the child where to look at – example: mum points to object that she wants her child to look at while giving the command)
  'No!' (D)
  'It would be nice if you helped me tidy up.' (β)

- **'Let's' commands** –

Statements by which the parent intends to direct the child's behaviour but which are unclear and imply a parental involvement which the parent may not intend to perform.

e.g. ***'Let's finish up now'(β)***
'Let's have a look'(β)
'Let's see' (i.e. parental request to see something) (β)
'Let's stop being silly'(D)

However, parental statements which are rhetorical are not considered to be commands because they do not request a <u>behavioural</u> response from the child, and is not directed at the child.

e.g. ***'Let's see' (parent is thinking)(Not Scored)***
'Let's think' (Not Scored)

2) Those parental requests for a child behavioural response which are clear, but are then followed by a parental behaviour which impedes the child's ability to comply within those 5 seconds which follow the parental request.

- **No Opportunity for Compliance (NO)** occurs if

a) the directive is immediately followed (i.e. within the following 5 seconds) by parental talk that occurs <u>before the child has complied</u>. Such verbiage may distract the child from attending to the parental request and may therefore impede their opportunity to comply.

b) the parent carries out the requested behaviour before the child has had sufficient time (i.e. 5 seconds) to comply to the request themselves.

c) the parent physically restricts the child's ability to comply e.g. by holding on to them or getting in the child's way within those 5 seconds which follow their request, so that the child does not get their full opportunity to comply.

- **<u>Chain directives.</u>**

When **more than two directives** are given in succession without allowing sufficient time (5 seconds) for the child to comply to each of the individual directives. Directives which occur in a chain such as this are considered each to be a Beta directive and are scored as such. If the parent gives two directives in succession it is considered that the child has sufficient opportunity to comply to each of the directives.

e.g. ***'Stand up, come here and sit down.' (β–NO, β–NO, α)***
'Look (points – and child complies). Push it down (child complies)'
(α-C, α-C)

- **<u>Commands "in the future"</u>**

When a directive refers to an expected behavioural response from the child which is not immediate regarding the task in hand (i.e. something is expected from the child later on in time rather than at present), these directives are **not coded** regardless of how precise and/or vague they may be.

'You will need to put that one down later' (while this is helpful, this is not an immediate command, and therefore is not coded).

SEEK CO-OPERATION (SC)

These are directives which are phrased as questions, and therefore are requesting a behavioural and/or verbal response from the child. These parental requests attempt to **direct** the child's behaviour, rather than following it. Any question directive the first time round (clear or unclear) is a Seek Co-operation. This is because we believe that giving directives in this way is often more collaborative and natural than giving an Alpha directive.

However, if the question directive (ie. SC) is not complied with, then if it is repeated it becomes a Beta directive (β). This is because following the child's non-compliance to the SC, the situation is now deemed to be a situation which requires a clear command and issuing a question directive offers the child the opportunity to say no. Rhetorical questions are considered as SCs.

e.g. ***'Why don't you play with the man now?' (SC)***
'Will you come over here?' (SC) **(but if said in the imperative, *α)***
'Could you help me with this?' (SC)
'Can you show me how to do this?'(child engaged elsewhere)'(SC)
'Have you got enough?' (F)

- Question commands or statements that attempt to engage the child in an activity which is different to the activity in which the child is already engaged.

e.g. ***Child is drawing.***
P - 'Why don't you build a house with these bricks?' (SC)
P - 'Do you want to use this pen for your drawing?' (F)

Questions (but not statements) that could either be coded as commands (SC) or Facilitate (F) should be coded as (F). They must meet all the usual criteria for an (F), such as helping the child follow his/her agenda (e.g. making the Lego model) and not take attention away to another task. The child does not have to be stuck in the task, but the suggestion in question format does have to be relevant and appropriate to getting it, or whatever the child is doing, done or moved on.

e.g. ***P – 'Do you need some more playdough?' (F – when child is already engaged in playing with it already)***
P – 'What about finishing the eyes?' (F – mum makes a suggestion referring to the child's completion of the Lego man's head, the activity in which the child is actually engaged with)
P – 'Would you like to play with the playdough?' (SC – if the child is happily playing with the toy swings)
P – 'Would you help me with this?' (SC – child is playing with the playdough and mother switches his/her attention to help her in a task that has no direct relevance to his play/her play – e.g. asking child to help mum pick up from the floor toys from a sibling)

NB: In summary, if the question relates to the activity that the child is involved in, then it should be coded as (F). However, if the question requires that the child has to switch his/her attention in order to respond to parental requests then it should be coded as (SC).

- Questions that put the parent at the service of the child are coded as (F).

e.g. ***'What would you like me to make?' (F)***

Questions offering joint activity whereby the parent is initiating the child's play are coded as (F).

e.g. ***'Shall we make something together?'*** **(F)**
'What shall we make?'(F)

However, if the child is already engaged in play, the above two questions would be seen as taking the child's attention away and therefore coded as (SC).

- Requests for the child to terminate any behaviour are coded as SC. This is for simplicity sake since they are question directives.

e.g. ***'Can you stop doing that now, please?' (SC)***
'Are you going to finish up now?' (SC)
'Could you not make that noise?' (SC)
'Shouldn't you tidy up now?' (SC)
'May I play with those too?'(I) –(i.e. for the parent's benefit)

Questions which appear linguistically to be seeking the child's will, but are actually essentially rhetorical in that it is clear that the parent is not interested in the child's answer and are, rather, intending to direct the child, are question commands and hence are coded as SC the first time they are given. Those questions which genuinely offer the child a choice, or are trying to find out what the child would like to do are coded as facilitations (F).

e.g. ***'Do you want to help me tidy up?' (SC)***
'Would you like to stop doing that now?' (SC)
'How about tidying up now?' (SC)
'Would you like to play with the horse?' (F)
'Would you like to make another one?' (F)
'Do you want a green one or a red one?' (F)

Coding questions

- Questions are only coded if they are either an interrogative, a facilitation, a seek co-operation **or a mental state.** That is, if the question is reflective, an attend in the form of a question, a question tag, a teach in the form of a question, or a request by the parent to join in the play, it is not coded.

e.g. ***'It's a horse.' (child)***
'A horse?' (parent)(reflective question- not coded)
'May I play with those too?' (I) –(i.e. for the parent's benefit)
'Is it the same'? (after child chooses a lego piece which does not match the picture) (F)
That's a big house, isn't it? (A, not coded)
"Do you see?" (if relevant to task is not coded since not Interrogate, and because child behaviour is not expected, it is not coded as SC).

ACKNOWLEDGEMENTS (Ack)

Acknowledgements (Ack) are those parental statements which immediately follow the child's compliance to a parental directive. If there is a delay between compliance and the positive parental statement such that it is unclear if it is contingent on the child's compliance, score as Positive Attend (+) rather than as Acknowledgement (Ack). However, if it is still clear that the "delayed" positive parental statement is contingent on the child's compliance, it should still be scored as Acknowledgement (Ack).

e.g. ***P – 'Put that one on next.' (α)***
Child complies (C)
P – 'That's it. Well done' (Ack, P)
P - 'Thank you' (Ack) (Following compliance)
P – 'You've got it!' (Ack) (Following compliance)

- Parental responses such as 'Hmm, hmm' are ignored.

N.B. Acknowledgements (Ack) override Positive Attends (+) or Praise (P).

- If there is no directive, parental affirmation of a spontaneous child action with words such as "That's it", "You've got it" or "Well done", are coded as Positive Attends (+) or Praise (P), using usual criteria.

INTERROGATIVE (I)

These are parental questions which attempt to **extract factual information** from the child *for the parent's benefit.* A Question Interrogative requires a verbal response from the child and may:-

a) mean that the child has shifted their focus from the task that they were doing, in order to respond to the question; (this is not a very helpful criterion as it is true of any question. It is thus necessary but is not sufficient)
AND
b) is not necessary for the continuation of the play at the time that the question is asked.

e.g. ***'What colour is this?'(I)***
'Is that a doggy?'(I)
'What is it?' (I)
'Do you know how to do this?' (I)
'Can you tell me what this is called?' (I)
'Is it the same?' (F)

If the question is such that it seeks to establish what the child wants or thinks i.e. questions about opinions, preferences or feelings, then it is coded as an Interrogative (I). However, if there is any possibility that the question could be interpreted as a request for behavioural action it is coded as (SC).

e.g. ***'Do you like green as a colour?' (I)***
'So you don't know what to do? (I) - (as long it is delivered with neutral tone; if critical tone, then it is coded as Cr).
'Are you going to play with the dog?' (SC)
'Which colour do you want to play with?' (I – if child is already engaged with a specific toy, this question would break the flow)- (Note: it can only be an (F), if it occurs in the beginning of the play interaction when child is still not involved in play).

Thus, if questions are part of a possible command they are (SC) code. Question tags from parents are ignored. See page 14. Where a question could be coded as either (F) or (I), (F) overrides (I).

- Single word questions are coded as Interrogatives.

e.g. ***'Why?'(I)***
'How?'(I)

- Statements which are a question by virtue of their inflection are also scored.

e.g. ***'Bad Day?' (I)***

Question Interrogatives which act as an attend and are essentially meaningless and rhetorical are not codable.

e.g. ***'Is it?' (Not Scored)***
'Does it?' (Not Scored)
'Yeah?' (Not Scored)

If the parent's Interrogative is not aimed at the child or if it is apparent that the parent is talking to themselves then this is not scored.

Coding questions

- Questions are only coded if they are either an interrogative, a facilitation, a seek co-operation, or a mental state. That is, if the question is reflective, an attend in the form of a question, a question tag, a teach in the form of a question, or a request by the parent to join in the play, it is not coded.

    e.g. ***'It's a horse.' (child)***
    'A horse?' (parent)(reflective question- not coded)
    'May I play with those too?' (I) –(i.e. for the parent's benefit)
    'Is it the same?'(F) (e.g. helpful when child chooses a lego piece that does not match the picture)
    That's a big house, isn't it? (A, not coded)

NEUTRAL ATTENDS (A)

Neutral Attends (A)

A Neutral Attend (A) is a parental statement which refers to the child, their behaviour, things they are using or with which they are directly involved. As such, all Neutral Attends are neutral statements that describe what the child is doing; they *follow* rather than attempt to direct or lead the child, and do not request a behavioural response from the child. Neutral Attends describing what the child is doing in the form of a question are not coded as a Neutral Attend. Where parents repeat or imitate what child has just said, these statements are coded as (A) only if parent uses the same words as the child used. If parent repeats or imitates what child has said in a question format, these parental utterances are not coded as (A).

As a consequence:-

- Neutral Attends are statements and comments **(never questions!)** that describe child behaviours.

- When coding a Neutral Attend that is about the child's immediate environment, and not about the child or their behaviour, it must be clear to the observer that the statement **does** relate to that with which the child is involved (e.g. it is not sufficient for the parent to comment on a toy which is near the child but with which the child is not currently involved).

- Neutral Attends (A) are parental statements which follow or refer to the child's behaviour and/or aspects of their immediate environment with which the child is **already engaged**. These statements are neutral in that they do not express the parent's evaluation of the subject of description.

  e.g. ***'The doll is wearing a green dress' (A) – (immediately after child has dressed up the doll)***
  'You've got a red brick.' (A)
  'That's red like daddy's car' (A)

- Neutral Attends never request or imply a required behaviour from the child.

- When the parent says the child's name without any accompanying verbalisation this is not scored as a Neutral Attend.

  e.g. ***'Sue!' (Not scored)***
  'I can see Sue!' (A)

Statements (but not questions) such as reflective/mirroring talk, descriptive commenting and imitation (verbal and/or physical) are coded as Neutral Attends. Any statement of what the child just said is a Neutral Attend, even if it is only a single word.

e.g. ***C – 'I'm making a ball'***
P – 'You've made a ball' (A)
P – 'Have you made a ball?' (NC)
C – 'I don't want to make a cat!'
P – 'You don't want to make a cat?' (NC)

A response that answers a child's question should not be coded.

e.g. ***C - 'I'm drawing a big house Mummy'***
P - 'Yes you are drawing a big house.' (A)

C - 'I've drawn a big house mummy'
P - 'You've coloured it in as well ' (A)

C – 'Where does smoke come out of a house Mummy?'
P – 'It comes out of the chimney on the roof' (Not scored)

- Parental verbalisations that are focused on or attend to the child's actions but are in a question format are <u>not</u> coded as (A), (as they distract the child's attention, and should be reduced as a result of intervention). This also applies to parental verbalisations that imitate/repeat what the child has just said, but in question format.

e.g. ***C - She's a pretty doll.***
P- Isn't she pretty? (NC)

C- It's a dinosaur.
P - Is it a dinosaur slide? (I)

If the child asks a question, parental responses should not be coded unless the parental response is a praise, criticism or a command that doesn't reply to child's question (i.e. neutral responses such as 'yes, it does', 'oh yes' or 'that's right' are not coded).

Similarly, question tags which follow any statement which is initiated by the parent and directed towards the child are not coded.

e.g. ***'That's a big house, isn't it?' (A, Not coded)***
'You could use a different colour, couldn't you?' (F, Not coded)

For a parental statement to be coded as a Neutral Attend it must relate to aspects of the child, their behaviour or their immediate environment which are current and concerning those events occurring during the period of observation (n.b. this is in contrast to Praise and Criticism). Comments made by the parent describing <u>their own</u> action or consequences of own action are not coded.

- These statements must be *initiated by the parent*, to be scored as a Neutral Attend (A).

- Neutral Attends can describe the child's physical (e.g. appearance, spatial orientation etc.), as well as the child's activity.

e.g. ***'There you are.' (Parent 'finds' child) (A)***
'You're hiding.' (A)

- Parental statements which imply that the child has performed an activity at a 'better-than-average' level are scored as Positive Attends (+).

e.g. ***'You built that so quickly!' (+)***
'You've built that lovely and tall.' (P)
'You've made that really tall!' (+)

- Attends which express a positive or negative evaluation are coded as Positive Attends (+)/Praise (P) and Criticism (Cr) as appropriate. If, however, it is unclear to the observer whether a parental statement is positive, negative or neutral in its evaluation, code as Neutral Attend (A).
- Single words that are in no way evaluative are not scored.

e.g. ***'Oh' (Not scored)***
'Yeah' (Not scored)

'Okay' (Not scored, if part of general conversation – e.g. "Okay, what are we going to do next?")
'Okay' (+, if positive affirmation of an action successfully completed by child)

- **Single words that are expressed with great enthusiasm following child's actions/compliance, would be coded as (+):**

  e.g. Child finishes Lego man by himself
  M: "Yes!!!" (+)

- Parental predictions of what will happen next in the play which are not intended to direct the play, but rather act as predictive observations, are scored as Neutral Attends (A). These should not be confused with parental statements regarding natural consequences of their child's behaviour in which a clear link is identified by the parent between the child's behaviour and what it results in.

  e.g. ***'They're all gonna fall off' (A)***
  'They're all gonna fall off if you keep doing that' (β)
  'I'm going to get angry if you keep doing that' (α)

- Questions are only coded if they are either an interrogative, a facilitation (autonomy-granting question), a seek co-operation, or a mental state. That is, if the question is reflective, an attend in the form of a question, a question tag, a teach in the form of a question, or a request by the parent to join in the play, it is not coded.

  e.g. ***'It's a horse.' (child)***
  'A horse?' (parent)(reflective question- not coded)
  'May I play with those too?' (I) – (i.e. for the parent's benefit)
  'Is it the same'? (after child chooses a lego piece which does not match the picture) (F)
  That's a big house, isn't it? (A, not coded)

POSITIVE ATTENDS (+) & PRAISE (P)

A Positive Attend (+) is coded for positive parental statements about the child, their behaviour or aspects of their environment to which they have contributed. Positive Attends has two categories denoted by a '+' or a 'P'.

- Statements that are overtly positive, and usually include words such as "good", "well", "excellent", "nice" etc., are coded as Praise (P). These statements are often given with animated delivery and enthusiasm and will include an unambiguous positive label.

  e.g. ***'Good girl/boy' (P)***
  'That's a nice big snowman' (child's drawn) (P)

- **Cultural variations of (P) include statements such as 'clap to yourself' (P) – (This would translate into such common praise as 'Give yourself a pat on the back')**

- Parental statements that intend to encourage the child and are supportive of the child's achievements or abilities are scored as Positive Attends (+).

  e.g. ***C - 'I can't do it.'***
  P – 'Yes you can!' (encouragement), (+)

Praise (P) can refer to any aspect of the child's behaviour and/or characteristics, regardless of when the behaviour occurs i.e. the behaviour does not have to be observed during the observation period - it can be in the past, present or future. In contrast, Positive Attends (+), similarly to neutral Attends (A), only refer to activities the child is engaged in and are not scored if the behaviour they refer to takes place in the past or future.

e.g. ***P – "You played football brilliantly yesterday" (P)***
P – "You look lovely in that shirt" (P)

Positive parental statements starting with 'we' can be (P) when they express warmth and collaboration with the child
e.g . 'We've done really well.' (P)

Positive attends (+) or P are not scored if the parent expresses a positive evaluation of an object or activity towards which the child has not contributed i.e. it is not the child's activity or product.

e.g. ***'What a pretty doll!' (child holding or playing with the doll) (A)***
'What a pretty doll!' (parent points out a doll the child is not playing with - Not scored)
'What a pretty doll!' (made by child) (P)
'You've drawn that beautifully' (P)
'That's very kind of you to give that to me' (P)
'I really like playing with you when you don't shout' (P)
'Excellent' (P)
'Thank you' (when in response to child contingent behaviour, +)
'There you go!' (parental exclamation of pleasure at child's action, +)
'You did it!' (+)
'You did that well.' (P)
'That's it.' (when in response to child contingent behaviour, +)
'Right.' (i.e. that's correct) (+)
'Correct!' (+)
'Look at that!' (parental exclamation of pleasure at child's action, +)

- Praises (P) are scored even if they are elicited by the child, either by questioning their parent or if the parent reflects the child's self praise.

e.g. ***C - 'Mummy, was I good today?'***
P - 'You certainly were good today.' (P)

However, it is necessary that the parental verbalisation contains a positive evaluation and is not merely a confirmation.

e.g. ***C - 'Did I do well?'***
P - 'Yes you did.' (Not scored)
P - 'Yes, you did well.' (Not scored, P)

- Praises (P) are also scored when parental statements are not aimed directly at the child but are said while the child is present.

e.g. ***'Sally was an absolute delight today.' (P)***
'He did really good' (referring to the child) (P)

CRITICISMS (Cr)

Criticism (Cr) is coded for those parental statements that express a negative evaluation of the child or their behaviour. Parental statements which negatively evaluate objects in the environment with which the child is not directly involved, or the behaviour etc. of themselves or persons other than the child are not coded as Criticisms (Cr).

e.g. ***'What an ugly doll!' (not a product of the child's behaviour) (Not scored)***
'That's not very good, is it?' (about something parent made) (Not scored)

It should be noted that unlike Neutral Attends (A), but like Praise (P), a Criticism (Cr) can refer to any negative statement concerning the child's behaviour etc., regardless of when the behaviour etc. occurs i.e. the behaviour does not have to be observed during the observation period - it can be in the past, present or future.

- Examples:

e.g. ***'You're so stupid.' (Cr)***
'What an idiot!' (Cr)
'You were so greedy yesterday.' (Cr)
'You can make a better one than that!' (Cr, though subtle)
'That's pathetic.' (about something child's made) (Cr)

- Parental verbalisations which convey parental disapproval of the child or their behaviour in a derogatory way. However, note the distinction between these statements and those which correct the child or their behaviour in a neutral manner.

e.g. ***'I don't like it when you shout.' (NC – reasonable feedback if given in a neutral tone)***
'I don't think much of your singing' (Cr)
'That's not very nice.' (Cr)*
'No! Don't do that, it looks silly' (D, D, Cr)
'They're not the same' (if given with neutral tone, F)
'They're not the same' (if given with critical tone, Cr)

- NOTE: Criticisms override Prohibitions.

- Parental verbalisations which obviously convey parental negativity towards the child in the manner in which they are spoken i.e. sarcasm, mocking etc. It is therefore important to consider tone and context. If it is unclear whether or not the parent is being critical or not score as a Neutral Attend (A).

e.g. ***'Fantastic!' (child has knocked something over) (Cr)***
'You call that a drawing!'(stated rhetorically to mock child) (Cr)
'Really nice.' (child has snatched toy) (Cr)

- Parental Directives which are rhetorical and essentially intended to insulting or criticise the child. It should be noted that parental directives which contain a negative component but are still intended to direct the child's behaviour are coded as criticisms (i.e. criticisms and praise trump directives)

e.g. ***'Drop dead!' (Cr)***
'Get lost.' (Cr)
'Shut up big mouth.' (Cr, Cr)

- Parental verbalisations which threaten the child with an aversive experience which is either so broad that the parent is unlikely/unable to carry out e.g. 'I'll stop loving you' or 'I'll leave and never come back', or that does not specify how the child may avoid this negative consequence. e.g. 'I'm going to smack you!'. It should be noted that this contrasts with Warnings, which are Alpha directives, in which the child is warned of a natural consequence of their behaviour thereby explicitly giving the child an opportunity to avoid this aversive consequence.

FACILITATE (F)

Facilitates are parental questions or statements which suggest rather than request a child behaviour. Facilitates may refer to the child as an agent (may be in the conditional tense), or actions made by the parent that concern the activity in which the child is involved. Facilitates can be differentiated from Directives by the way in which they **follow** rather than attempt to direct the child's behaviour i.e. they relate to those activities in which the child is already engaged. Facilitates **must** directly (not indirectly or vaguely) serve the child's agenda which should be easily determined from the context. They should have some specificity and not be totally vague (see pg. 21). They should be at least helpful to attaining the child's goal, and sometimes maybe definitely needed by the child to reach its goal. Statements that are facilitating are nonetheless coded as Directives, unless they are put in the conditional tense in which case they are Facilitates.

e.g. ***'You have to put those there so that they can fit in there' (α)***
'What about that bit there?' (F)
'How about tidying up now?' (SC)
'Would it help if you …' (F)
'You could pull the string/twist the knob and see what happens' (F,β)

- **Although helpful in attaining the child's goal, all - "We need…" - and - "You need…"- statements are coded as commands even if the child is stuck in play.**

  e.g. 'We need to make this one smaller' (β)
  'You need that to be longer' (β) (it is a beta command as in this statement the parent implicitly requires the child to do something – the same code is given to "we" statements such as: "we need that to be longer")

- **Questions that put the parent at the service of the child are coded as (F).**

  e.g.*'What would you like me to make?' (F)*

- **However, parental statements – NOT questions- that offer help but in a directive way not giving the child a choice are not (F) and are therefore uncodable.**

  e.g. 'Let me put it there for you.' (Unc)

- Questions initiating the child's play where the child has not started at all, so that the parent is helping to get things going are coded as (F). This does not apply if the child has already started any type of play.

  e.g. ***'Shall we make something together?'*** **(F)**
  'What shall we make?'(F)

However, if the child is already engaged in play, the above two questions would be seen as taking the child's attention away and therefore coded as (SC).

Other examples of Facilitate:

'You could use one of these' (F)
'Maybe you have to put that one on first' (F)

'Do you need some more Playdough?' (F)*
'Shall I help you with that?'(F)
'Do you think they're the same?' (F)

'Will they be able to fit in the chairs?' (F- when referring to play people being too big for the chairs child uses in play.)

* Although coded as (F) it is recognised that the same question could be a disguised command.

- Consequently, instances where a parent makes a suggestion (i.e. a Facilitate), but is carrying it out as they say it (or they do not wait for the child's response), are not considered to be instances of facilitation and are not scored.

- Facilitates will never suggest the termination of a child behaviour. If a parental question contains both elements i.e. termination and initiation of a child behaviour, code as (SC).

e.g. ***'Why don't you stop drawing that and draw something else?' (SC)***

- If the word 'no' or 'not' features in parental dialogue code as Corrective/Prohibition (D). However, corrective statements and feedback to the child that <u>do</u> contain a negative can be facilitative.

e.g. ***'That won't fit in there' (F)***
''It needs to be longer' (F) (it is a facilitation as the term "it" refers to a property of the task)
'You've made that too small.' (F)
'That's too much, you won't be able to press that out.' (said with neutral tone) - (F, NC)

- However, facilitative statements should include an element that specifically directs and guides the child as to what to do. Statements that are intended to be facilitative but that are vague (judged mainly by content but allowing some context to be influential) are not coded.

e.g. ***'Are you sure?' (said to child holding wrong piece of lego) (NC)***
'You should be able to do this.'(with neutral tone) - (NC, because it is not offering any specific help to how child should move forward).

- Coding questions

Questions are only coded if they are either an interrogative, a facilitation (autonomy-granting question), a seek co-operation, or a mental state. That is, if the question is reflective, an attend in the form of a question, a question tag, a teach in the form of a question, or a request by the parent to join in the play, it is not coded.

e.g. ***'It's a horse.' (child)***
'A horse?' (parent)(reflective question- not coded)
'May I play with those too?' (I) – (i.e. for the parent's benefit)
That's a big house, isn't it? (A, not coded)

PROHIBITION-CORRECTIVE STATEMENTS (D)

- Prohibitions refer to parental statements that correct or disagree with the child, so will usually use the words 'stop', 'no', 'don't' or 'wrong' (therefore qualifying an action). If it is a direct command to cease an activity, it is coded as a corrective prohibitive command and should be coded (D).

  e.g. ***'No! Don't do that, it looks silly' (D, D, Cr)***
  'That's wrong' (D)
  'You've made a mistake' (D)

- However the word 'not' can be ambiguous: it might be part of the information the parent is giving about the property of materials being used, in which case it would be a facilitation. So, when there is neutral affect, the rule is that if the 'not' is describing a thing (rather than a behaviour) it should be coded as a facilitation. If there <u>is</u> negative affect, consider coding as Criticism.

  e.g. ***Don't use that one! (D)***
  That one's not long enough (F)
  'Don't you think it should be longer?' (F)
  'They're not the same' (F)
  'Stop it!' (D)

- Corrections of the task (e.g. of the child's language, counting, etc) are not coded. Again, if there is negative affect, consider coding as Criticism.

  e.g. ***Child: I've got four bricks and I'm going to put them here.***
  Parent: That's not four, it's five! (with neutral or positive affect: not coded)

  Child: I builded the tower (Not coded)
  Parent: It's not 'builded' it's 'built' (Not coded)

- ***Sentences where 'don't' might be used referring to psychological attributes, should be coded as (M) rather than (D)*** – *if we look at the following examples below, we'll see that they are be coded as (M) rather than (D). Note: some examples may even be coded as (Cr), depending on what psychological attributes they refer to as well as the tone of voice used:*

  Child is clearly frustrated because it didn't finish Lego man on time
  Mum says: "Don't be worried about it" (M); or "Don't be sad" (M);

  Child is annoyed with a sibling interfering in his play
  Mum says: "Don't be angry" (M)

  Child seems to lack interest in activity, wanting to quit easily
  Mum says: "Don't be lazy" (Cr – even if tone of voice is neutral, it is still referring to a negative attribute of child's character)

<u>N.B. Prohibitions/Correctives override Directives</u>

<u>N.B. Mental States override Prohibitions/Correctives</u>

MENTAL STATE (M)

A question or statement which seeks to ascertain or predict the child's internal state or interpret the child's feelings during an activity is included in the Mental State category (M).

- Include parental statements which refer to the child's inferred mental/internal state.

  e.g. ***'You must be feeling really proud' (M)***
  'You were very patient' (M)
  'You're in a good mood.' (M)
  'You're happy today' (M)

- Include correct parental anticipation of child's feelings (where they are incorrect, as denied by the child, do not score).

  e.g. ***'You must be finding that very difficult to build' (M)***
  'That looks like a hard one to do' (M)
  'That's fiddly' (M)
  'Are you getting tired (or bored) with this?' (M)
  'It's hard, isn't it?' (M, NC)
  'It's fun, isn't it?' (M, NC)

It should be noted that in circumstances when the parent seeks the child's will (i.e. a Seek Co-operation or Interrogative) but at the same time imposes their will, without waiting to hear what the child wants then this in considered to be not scorable.

TEACH (T)

Parental statements which provide the child with additional, potentially novel, factual information about their environment and the parent's normative expectation. Teaches are not task specific and provide the child with generalisable information about some aspect of their environment.

e.g. ***'Babies go in prams' (T)***
'Some dinosaurs were vegetarians' (T)
'That bit's got to be longer' (task specific information) (β)
'That's like Sally's one, isn't it?' (A, Not scored)

- Teaches are statements, not questions, and do not represent attempts by the parent to question the child about their knowledge.

- Responses to a the child's questions which provide the child with information are not considered to be a Teach as the child has requested this information. However, any new information introduced by the parent or information not generated by the child's question is coded as a Teach.

  e.g. ***C - 'Daddy, what's this animal called?'***
  P - 'A giraffe. Giraffes have long necks so they can eat the leaves at the top of the trees' (Not scored, T)

- Teaches are not to be confused with neutral Attends which involve the parent providing descriptive comments on the child's behaviour and immediate environment - a teach in contrast introduces **additional, generalisable** information to the play. It is considered here that a Teach is a piece of information imposed by the parent unnecessarily in an attempt to inform the child.

- Parental explanations concerning why the child should or should not do something are not considered to be Teaches.

  e.g ***'You've got to push their hands down so they don't come off'***
  (α Not scored)

<u>Appendix H.1.</u> - Parent Global Coding Scheme (PGCS)

1. Parental Intrusiveness

Consider here the extent to which:

a) The parent interrupts and/or breaks the child's flow and enjoyment by attempting to control/dominate or be unnecessarily directive towards the proceedings;
b) The parent discourages children from performing actions by themselves;
c) The parent's pace does not equate the pace in which the child is able to perform actions according to his/her age and level of learning.

Ask yourself…

Does mother make <u>'intrusive statements/comments'</u> during play such as:

1.1. Mother makes simple negations without explanation (e.g. "That's not a dog")

1.2. Mother makes alternative/contrary suggestions when the child is already engaged in an activity (e.g. while the child clearly shows preference in making clouds with yellow playdough, the mother says: "You should use white playdough to make your clouds, not yellow!");

1.3. Mother verbally imposes her own suggestions, over-riding the child's ideas regarding the task in hand and becoming critical of the child's ideas when they choose them above those suggested by the parent (e.g. following the previous example, the child answers to mother: "No mum, I don't want my clouds to be white, I want my clouds to be yellow, Ok? – mother replies: "No, your clouds can't be yellow, they have to be white! Yellow clouds don't exist, can't you see that? All clouds are white, that's why you're going to make white clouds instead!");

and/or Does the mother exhibit <u>'intrusive actions'</u> during play such as:

1.4. Mother physically imposes her own ideas/suggestions, over-riding the child's ideas regarding the task in hand (e.g. mother moves toys towards herself or takes them away from the child in order to perform the task according to the way she thinks it's best or more suitable when compared to the way the child has chosen to conduct the activity – applying this to the playdough activity as illustrated above, even if the mother doesn't make any comments, if she takes the yellow playdough from the child's hands in order to replace it with white playdough in order to make the clouds herself, this type of action already counts as being codable under this subcategory – i.e. as an intrusive action by the parent);

1.5. Mother does not give child sufficient time to finish what he is saying or doing regarding the task in hand [this type of parental behaviour contradicts what Webster-Stratton (2002) identified as the parent ability to pace himself at his child's level of learning] (e.g. while the child spent a certain amount of time trying to finish the Lego man, when he/she is still picking up the last pieces, mother impatiently finishes the Lego man herself, providing the obvious impression to the observer that she doesn't respect the pace in which the child is able to perform the activity).

1	**2**	**3**	**4**	**5**	**6**	**7**
Absent No evidence of behaviour in question	*Rare, slight little, few*	*Some, occasional, a bit*	*Moderately, reasonably, somewhat*	*A fair amount, quite a bit*	*Predominantly, marked presence, largely, mainly, many instances of*	*High, Very, Pervasive, Extremely*

Appendix I.1. - Child Global Coding Scheme (CGCS)

1. Child Attention on Task/Hyperactivity

Consider here the extent to which the child is attending and engaged with the task. This is simple a measure of *how* and the *amount of time* the child spends on task and the frequency of child-initiated switches in attention.

Ask yourself…
Is the child's attention focused on the task or are they off task?
and/or How many times do they switch to another activity and/or how much are they to a reasonable extent focusing on and completing the task as opposed to half-starting it and then moving on to something else? NB: So long as the task is completed, it doesn't matter if there are switches in conversation topic.

NB: Attention is NOT compliance – e.g. if a child fails to follow mother's instructions but still continues to play with lego, this is good attention.

* NOTE: For the purposes of coding, the child will be given a score of 3 or less if there are three clear instances where the child was not paying attention to the task in some specific way (e.g. looking away and stopping the play activity at the same time, standing up and going away, etc.). Two clear instances of being "off-task" will normally warrant a score of 5; and one brief episode of being "off-task" will warrant a score of 6. A brief glance away (e.g. to check on the camera) whilst continuing with the task (e.g. rolling out playdough) will **not** constitute being 'off task'.

1	2	3	4	5	6	7
Absent: No evidence of behaviour in question	**Rare**, slight, little, few	**Some**, occasional, a bit	**Moderately**, reasonably, somewhat	**A fair amount**, quite a bit	**Predominantly**, marked presence, largely, mainly, clear, many instances of	**High**, Very, Pervasive, Extremely

2. Child Enjoyment with Activity

Consider here the extent to which the child appears to be enjoying the activity, N.B. this is considered regardless of whether there are play times or not throughout the interaction and who is leading the activity – parent, child or both.

Ask yourself…
Does the child seem to be having fun during the activity (e.g. makes enthusiastic comments about toys while tidying up). Note: this code is also scored if child enjoys something other than an activity directly related with the play tasks (e.g. although child is not engaged in play or tidy up activities, is nevertheless enjoying talking to mum about a specific event that took place in a different context such as school and/or enjoys observing mum's actions during the interaction)
and/or Does the child enthusiastically and spontaneously initiate a specific activity of his/her own agenda? (e.g. child doesn't wait for mum's prompts to start playing, instead he/she enthusiastically initiates/decides what to do with the playdough)

and/or Does child contribute to keep the activity going while having fun at the same time? (e.g. child smiles and says to mother – With this piece of playdough I am making the Lego man's head!")

and/or Does the child express the pleasure he/she is having in playing with the toys? (either verbally, e.g. child says to mum: "I like playing with this playdough" or through tone of voice, e.g. "oooh!").

and/or Does the child indicate that he/she wishes to continue playing for longer than he/she is supposed to (i.e. according to observer's instructions)? (e.g. child says to mum: "I don't want to tidy up yet mummy because I like to finish my Lego man")

and/or Does child show a positive energy level while engaged in play? (e.g. child shows enthusiasm by actively participating in the play rather than standing placid and/or passive and completely disinterested from play)

1	2	3	4	5	6	7
Absent: No evidence of behaviour in question	**Rare**, slight, little, few	**Some**, occasional, a bit	**Moderately**, reasonably, somewhat	**A fair amount**, quite a bit	**Predominantly**, marked presence, largely, mainly, clear, many instances of	**High**, Very, Pervasive, Extremely

3. Child Antisocial Behaviour

Consider here the extent to which the child:

(a) Does not accept and/or does not seem to be willing to initiate and/or complete a specific behaviour as a result of a request or command made by his/her parent;

and/or

(b) Displays difficult/disruptive behaviour in his/her interactions with his/her parents.

Ask yourself…

Is the child non-compliant and/or refuses to comply to mother's commands and/or requests (e.g. saying "no" to mum, whining/complaining, stepping back from mum, etc.) and/ or ignores (e.g. child doesn't reply to mum and/or keeps doing an activity as if mum hasn't requested/directed him/her to do something different) what the parent has directed/requested them to do?

and/or Does the child exhibit non-cooperative/difficult/disruptive behaviour in their interactions with their parents? (e.g. when mum sets boundaries/rules, the child, even if being compliant at the same time, will: argue with mum, use "smart talk", destroy property, whine, sigh, grumble, threaten, yell, tease, humiliate, blame, physically attack, correct, demand, or challenge mum by repeating a specific behaviour which she told him/her not to do again, etc.).

1	2	3	4	5	6	7
Absent: No evidence of behaviour in question	**Rare**, slight, little, few	**Some**, occasional, a bit	**Moderately**, reasonably, somewhat	**A fair amount**, quite a bit	**Predominantly**, marked presence, largely, mainly, clear, many instances of	**High**, Very, Pervasive, Extremely

4. **Child's Social Responsiveness**

Consider here the extent to which the child seems to <u>socially respond</u> (verbally or non-verbally). Mainly this will be to mum (e.g. child looks at mum and/or makes a comment when she provides an explanation and/or directs the child to do something rather than complying "mechanically" to her directives, not looking and/or talking to mum, as if mum was "absent"). This ability to socially respond to mum can be operationalised as child socially responding to:

a) specific mum-initiated-contact-behaviours (verbal or non-verbal), *and/or*
b) mum's presence. However, if mother provides no opportunities to respond, this dimension will be hard to code when there is evidence of responsiveness (or lack of responsiveness to overtures from the interviewer, siblings, etc.). Nonetheless, a child that has no opportunities to be responsive should be scored as low in social responsiveness (as it is likely to reflect the generality of the child's experience). A score of 2 can be given when child weakly attempts to be socially responsive, whereas scattered examples of social responsiveness will warrant a score of 3. More consistent and clear examples can be scored as 5 whereas pervasive and intense displays of social responsiveness will normally warrant a score of 6.

Ask yourself…

Does the child acknowledge his/her mother's presence/participation or does the child act as though mum is not present? (e.g. child looks comfortable and accepting mum's engagement in play rather than playing alone as if mum wasn't there playing as well)

and/or Does child socially respond to mum when she provides him/her with <u>support</u> such as: reinforcement, facilitation, comforting, or encouragement or is <u>mum-initiated support to child</u> ignored by the latter?

and/or Does child socially respond to mum when she provides him/her with <u>guidance</u> such as: explanations, instructions, suggestions, or factual/extra information or is <u>mum-initiated guidance to child</u> ignored by the latter?

and/or Does child socially respond to mum when she provides him/her with <u>emotional comfort/nurturance</u> such as: hugs, cuddles, kisses, affectionate squeezes or patting or is <u>mum-initiated nurturance to child</u> ignored by the latter?

and/or Does child socially respond to mum when she tries to establish <u>social interaction</u> with him/her by: asking questions, initiate conversations, initiate play activities, making comments about child's actions and/or verbalisations or is <u>mum-initiated social interaction with child</u> ignored by the latter?

and/or Does child socially respond to mum when she provides him/her with <u>mentalising statements</u> that acknowledge the child's thoughts and feelings or are <u>mum-initiated mentalising statements about child</u> ignored by the latter?

1	-	2	-	3	-	4	-	5	-	6	-	7
Absent: No evidence of behaviour in question		**Rare**, slight, little, few		**Some**, occasional, a bit		**Moderately**, reasonably, somewhat		**A fair amount**, quite a bit		**Predominantly**, marked presence, largely, mainly, clear, many instances of		**High**, Very, Pervasive, Extremely

5. Child Global Functioning:

This code requires a consideration of the quality of the child's overall behavioural and relational style as displayed throughout the entire interaction(s) and taking into account child scores already given according to all child criteria that have been measured using both coding schemes[35], namely:

- Responsiveness to parent
- Displays of positive and negative affect
- Attention on Task
- Enjoyment with play
- Level of anti-social behaviour
- Ability to be mutual

1	-	**2**	-	**3**	-	**4**	-	**5**	-	**6**	-	**7**
Very Poor		Poor		Somewhat Inadequate		Reasonably Adequate		Adequate		Very Adequate		Excellent

[35] I.e. Coding of Attachment Related Parenting (CARP) & Child Global Coding Scheme (CGCS).

Appendix J.1.

CODING MANUAL FOR THE MANCHESTER CHILD ATTACHMENT STORY TASK

Revised 19/9/02

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Acknowledgements

Concepts and procedures within this coding manual have drawn on a number of different areas of attachment research in infancy and adulthood. The coding of attachment behaviours in the doll play draws on the initial work of Ainsworth et al 1979 in the Strange Situation procedure. Coding of disorganised behaviours draws on the work of Main and Solomon (1990). Concepts of methodologies in coding narrative coherence and affect draws on the work of Main and Goldwyn and others in the Adult Attachment Interview (1985 -). The structure of the interview has similarities to the doll play methodology developed by Bretherton (1994) for younger children and detail of the contents of the vignettes were inspired by aspects of the Adult Attachment Interview (Main and Goldwyn 1985 -). The conceptualisation of coding 'cannot classify' and 'multiple strategy' owes a great deal to Main and Hesse (Hesse 1995). The authors would like to record their deep appreciation for the generous support of Mary Main and Eric Hesse during the development of this interview.

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GENERAL SCORING RULES

The coding scales apply to specific aspects of the content and style of the narrative. Most are coded on a 1-9 scale. For the majority of the scales, a general overall schema applies as follows. Where there are exceptions to this, these are indicated.

Score 7 - 9: Scores of 7 and above are within the normal or optimal range but of varying quality.
Score 5 - 7: "Borderline" normal or sub optimal scores but potentially "secure" in categorisation.
Score 3 - 5: Abnormal scores, generally raising the likelihood of "insecure" categorisation.
Score 3 and below: Seriously abnormal scores that will often reflect clinical caseness.

SECTION 1: CODING THE INITIATION PHASE

This phase of the interview is examiner led. Its aim is to bring the child into an engagement with the vignette and generate the arousal that will mobilise their mental representation of attachment. The examiner therefore aims to develop:

1. A deepening engagement with the vignette story.
2. A focusing of mood state around the particular distress represented in the story.
3. A gradual increase in emotional tone or arousal.
4. A handing over of initiative to the child that triggers the next phase.

The rating scales record success in each of these aims. They measure the initial setting conditions from which the test phase proceeds. They may sometimes reflect trait variables in the child (for instance, grossly attentionally disordered children will find initial engagement very difficult) and allow for some control of these in analysis.

Scale 1A: Engagement in Phase 1

A rating of the extent to which the child has got absorbed and imaginatively caught up in the story. Rate by increasing attention to the play materials and the story, lack of distraction to other things, quality of emotional engagement in the story as seen by facial expression, gesture, comments etc. Good engagement with the examiner shown by social referencing etc. also weights here. Code on behaviour *up until the* handover of initiative to the child. Difficulties with the handover and turn taking don't code here.

1. Impossible to engage. Either overactive, distractible and unable to focus or extremely passive.
2.
3. Examiner has to work much harder than usual but still cannot keep develop the child's engagement successfully
4.
5. Good enough to proceed to the next phase but still somewhat problematic and examiner has to work quite hard to initiate/maintain engagement. Below 5 the rater will not be able to proceed with the interview. Above 5 the interview can proceed.
6.
7. Good quality engagement by the end. Examiner only has to work slightly to maintain engagement.
8.
9. High quality full engagement from the beginning. Immediate engagement with play materials and intense active interest in the story. Deepening concentration as vignette proceeds.

Scale 1B: Quality of Arousal

We expect a gradual increase in arousal as the initiation of the vignette proceeds. This rating records how easily the child is able to experience this increased arousal.

1. No capacity to appropriately modulate arousal in the context. Either an absence of any arousal at all or a chaotic and unfocused over arousal which is not modulated and is incongruous to the context of the vignette.
2. Partial or very uneven modulation. Difficult to contain and fairly incongruous with vignette. Paradoxical response with decreasing apparent arousal during

engagement. Children with ratings of 3 or below will be unable to tolerate the arousal generated in this phase of the interview. They may show behaviour such as completely turning away, leaving the table, clapping hands overhead.

3.
4. An uneven modulation but a gradual and reasonably appropriate increase in arousal during the initiation phase. Turning away of the body but not leaving the table. Briefly putting hands over ears.
5.
6. Quite appropriate modulation of increasing arousal. Quite well contained and appropriate. Examples of the behaviour here would be the presence of an embarrassed laugh or inappropriate "forced" smiling.
7.
8. Fluently modulated, graduate increase in arousal as initiation phase continues. Sensitive and appropriate to the context introduced by the examiner. Well contained and appropriate to the setting and task. Enables the child effectively to engage in play.

Scale 1C: Turn taking at the end of Phase 1

The aim at the end of Phase 1 is to transfer the initiative to the child to complete the vignette. This scale records how easily this is done.

1. Smooth transition of initiative
2. Child interrupts prematurely and does not allow examiner easily to finish the vignette initiation.
3. Child does not respond to turn taking signals and fails to commence with the initiative, or needs prompting, or significant delay in commencing narrative.

SECTION 2: CODING THE VIGNETTE COMPLETION

The aim is to have the child enter the second phase of the vignette somewhat aroused and empathically focused on the distress in the vignette. We assume that most children in that state of distress and tension will wish to find a way of reducing the distress and we further assume that the experience of distress will have activated their internal representation of attachment relationships and expectations of care. The aim of this phase is to observe the spontaneous behaviours played out by the child in pursuing that end. We are interested in *both* the strategy of assuagement that is played out *and* in its effectiveness (i.e. the extent to which assuagement occurs and arousal diminishes). It is useful to think here of a notional graph representing intensity of arousal: in the first initiation phase, the level of arousal has gradually increased to the point of maximal intensity at the transition to the second phase; within the second phase we expect to see the arousal gradually reduce to a threshold below which we may see the switching in to a pattern of exploratory behaviour. We are interested in the profile of that graph as well as the means by which the assuagement is achieved.

In secure attachment behaviour we expect to see the use of an interpersonal strategy to assuage the distress through proximity to the caregiver. In avoidant strategies the child may minimise the initial distress and/or use non-interpersonal strategies such as various forms of self-care or displacement activity. In ambivalent strategies the child will usually show contact maintenance and contradictory resistant behaviours with increase rather than reduction of arousal. We may finally see chaotic behaviour that seems to represent no goal directed behaviour or clear strategy.

The *care giving behaviour* in phase 2 may be understood in two ways. Firstly, as a straight forward re-enactment of the child's experience of care giving: which would correlate with home based observations. This is the focus of the scoring in this section. On the other hand, the representation of caregiving behaviour could be considered as already part of the child's internalised working model of attachments and to that extent modified by child's cognitive processes. For instance there may be the beginnings of the processes of idealisation or denigration of the parent. This focus in rating is addressed in the later scoring of coherence and state of mind.

The evidence for rating aspects of phase 2 comes primarily from the behaviour acted out in the doll play by the child. This is supplemented in some scales by observations about state of mind of participants in the doll play and if necessary by probes regarding the state of mind from the examiner. The child's own reactions and behaviour can give supplementary information in both this phase and the rating of state of mind variables. ***Particular weight should be given to behaviours that occur spontaneously or with an almost compulsive quality at the beginning of the vignette on the assumption that these form the most unmediated reaction to the distress stimulus.*** If behaviours later in the vignette are very different then this may be appropriately recorded as a reduction in coherence. Initial disorganisation of response may be particularly significant as weighting towards a D subcategory.

Scale 2A: Proximity Seeking: Child to Mother

This and the next scale record the details of proximity seeking. *These are behavioural observations; avoid using inferences about mental state or intentionality.* Code the movement of each person separately - thus if mother moves and child does not, code the child scale as 3 etc. It is possible to score high on both 2B and 2C if both child and mother move towards each other appropriately. All codes refer to the dolls.

1. Child markedly increases distance from mother during vignette.
2. Child slightly increases distance from mother during vignette.
3. Child stays at same distance from mother during vignette.
4. A partial movement towards mother during the vignette but not achieving proximity.
5. Significant delay in beginning proximity, gradual or interrupted or fleeting proximity with a quick move away.
6. Good final proximity made but after some early delay in starting.
7. Child creates proximity by getting close. There is clear goal direction and communication but either a slight delay in proximity seeking or an absence of physical contact or a clear and direct verbal communication.
8. Proximity with clear and direct verbal communication but no physical contact.
9. Child makes swift clear and direct proximity with physical contact. Clear goal directedness.

Scale 2B: Proximity Seeking: Mother to Child

1. Mother markedly increases distance from child during vignette.
2. Mother slightly increases distance from child during vignette.
3. Mother stays at same distance from child during vignette.
4. A partial movement towards child during the vignette but not achieving proximity.
5. Significant delay in beginning proximity, gradual or interrupted or fleeting proximity with a quick move away.
6. Good final proximity made but after some early delay in starting.
7. Mother creates proximity by getting close. There is clear goal direction and communication but either a slight delay in proximity seeking or an absence of physical contact or a clear and direct verbal communication.
8. Proximity with clear and direct verbal communication but no physical contact.
9. Mother makes swift clear and direct proximity with physical contact. Clear goal directedness.

Scale 2C: Self Care Behaviour

Concrete acts of self-care to contain distress. Child acts as his or her own care giver e.g. by talking to self or making a cup of tea or dressing own cut or giving self medicine etc. Distinguish from more non-specific acts that can also act to reduce distress but which do not involve concrete self-care - these are coded as displacement activities. The organisation and elaboration of these self-care behaviours is relevant and should contribute to a higher score.

1. No evidence of self-caring behaviours.
2.
3. Very intermittent use of self-care mixed in with other strategies.
4.
5. Occasional but not predominant use of self-care. Self-care is more elaborated.
6.
7. Frequent use of detailed and elaborated self care, but still seeks something from mother.
8.
9. Predominant and overwhelming use of self cares strategies to the exclusion of others.

Scale 2D: Displacement Activities in the Narrative (doll)

These behaviours that have no understandable goal orientation in terms of proximity seeking or specific self care strategy and yet serve the function of containing or masking distress. A number of forms of this can be identified:

(a) Poorly structured repetitive, non-progressive preservative activities such as fiddling, rearranging furniture, rather random cleaning of the house, walking in circles.
(b) More organised behaviours such as making or eating a meal, watching TV, organised cleaning, introduction of extraneous topics or characters.

In the coding, the less formed perseverative behaviours described in (a) weight as more abnormal.
These displacement activities can be represented in the narrative by doll or parent but usually involve both, i.e. it would be unusual to see clear goal orientated behaviour from the child doll alongside obvious displacement activity from the mother.

1. No evidence of displacement activities.
2.
3. Very intermittent use of displacement activities mixed with other strategies.
4.
5. Presence but not predominant use of displacement activities.
6.
7. Frequent use of displacement activities including bringing in a character besides mother or doll child.
8.
9. Predominant and overwhelming use of displacement activities to the exclusion of others.

Scale 2E Displacement activities (child)

Displacement behaviours shown by the child during the interview. These include:

a) motor activity such as drumming, twirling, writhing, arching, fidgeting, sniffing.
b) child coming out of the task completely and introducing extraneous conversation such as "we went to the zoo yesterday" or "when are we going to end" or "I want to go and see mummy".

NB. Behaviour that may be the result of overactivity, distractibility, or cognitive difficulties will be coded here but coders should note separately that they believe the behaviours are due to these factors rather than anxiety related displacement. Clues to this will lie in whether the behaviour is episodically related to specifically charged contexts or more general (e.g. appearing also in the phase 1 codings)

1. No evidence of displacement activities.
2.
3. Very intermittent use of displacement activities mixed with other strategies.
4.
5. Presence but not predominant use of displacement activities.
6.
7. Frequent use of displacement activities.

8.

9. Predominant and overwhelming use of displacement activities to the exclusion of others.

Scale 2F: Reversal Patterns
Child doll behaviours that show either:

a) Active care giving towards the parent aiming to assuage parent's distress.
b) A *predominant focus* during the narrative on the adult's state of mind, distress or predicament rather than the child's.

The phenomena under a) are given stronger weight than those in b)

1. No evidence of reversal patterns.
2.
3. A slight emphasis/awareness of parental predicament and mental state mixed in with child distress.
4.
5. Significant shift of focus to parental predicament/mental state.
6. Pervasive or intense reversal including care-giving behaviour from child towards parent.
7.
8. Predominant and overwhelming use of reversal patterns to the exclusion of others.

Scale 2G Angry Resistance/Motivational Conflict
Alternating behaviour where there is a display by the child of contradictory behaviours. Alternation between anger and clinginess is a characteristic example of this. There are clearly contradictory or ambivalent feelings underlying the child's attempt to maintain contact with the parent. To be distinguished from *bizarre, disorganised behaviour* (below) where there is no sense of overall goal, less mood congruence and the alteration is very rapid.

1. No conflicted behaviour
2.
3. Isolated conflict behaviours
4.
5. Moderately high levels. E.g. calling mother because of tummy pain and then when mo comes saying "go away"
6.
7. High levels of conflicted behaviour between clinginess and anger. Intensity and repetition of cycles of this kind code here.
8.
9. Very high levels of conflicted behaviour swamping other behaviours

CAREGIVING BEHAVIOUR

This section codes behaviours observed in the care giving figure during the vignette which are related to care giving (*other* behaviour of the parental figure in the narrative does not code here). Evidence on which the ratings are based are doll caregiver behaviour with the addition of mental state or intentional attributions that the child makes to this figure either spontaneously or in response to probes. With the exception of physical responsiveness, these ratings *require inferences about the caregiver's mental state and intention;* we have to get a feeling about the caregiver *as a person* in the vignette. If there is insufficient information given in the play to make such judgements, code 0.

Scale 2H: Physical Responsiveness and Sensitivity

The caregiver's physical and emotional response to the distress. Child orientation and sensitivity to the child's behaviour and state of mind. The rating considers the timing of the response and its appropriateness.

0. Cannot code because parent is not represented in the vignette at all
1. Parent represented but no evidence of sensitivity or response to child's signalling of distress. A quality of complete ignoring or unawareness of the child. Caregiver's behaviour may continue unchanged with other goals in mind driven by caregiver's needs and goals, not the child's. No interaction at all.
2.
3. Delayed or very partial response to the child's distress. Poorly timed or insufficient response, but at least some response to child's distress.
4.
5. Moderate sensitivity that may be sustained reasonably well. The response may be partially appropriate and reasonable in timing. Perhaps interaction formal in tone.
6.
7. Good sensitivity and responsiveness with perhaps some delay in initiation of some lack of focus or distraction at times. Basically the child's needs are responded to.
8.
9. Immediate and clear sensitivity to the child's signal of distress. Lack of any other distraction. Clear, appropriate and well timed responsiveness to the child's needs. No other goal orientation.

Scale 2I: Warmth

The inferred state of mind of the caregiver with respect to warmth during care giving activities.

0. Lack of data with which to code (whether or not the parent is represented in the vignette).
1. Cold, uncaring, hostile with actively hostile or violent acts.
2.
3. Cold, unresponsive and uncaring without overt violence or hostility.
4.
5. Some warmth and care towards the child that may be delayed or mixed in with other reactions.
6.

7. Warm care towards the child. Expressions of empathy and care but may be delayed or somewhat intermittent.
8.
9. High levels of warmth, lovingness, empathy and care, undiluted by other reactions.

Scale 2J: Intrusiveness/Control

Care giving behaviour that actively intrudes, interferes or controls the child's reactions and imposes the caregiver's agenda on the child. There is a lack of child centeredness. This scale codes *both* behavioural and psychological aspects of the care giving. It relates to the concept of "expressed emotion".

1. No involvement/control/impact on child. Total lack of interaction.
2.
3. Low, sluggish or partial interaction with the child.
4.
5. Appropriate lively interaction.
6.
7. Over control and a degree of intrusiveness is very evident.
8.
9. Overwhelming intrusion into the child's space and reactions. Obliteration of the child's feelings.

EFFECTIVENESS OF ASSUAGEMENT

The degree to which distress is modulated, independent of behavioural strategy used. Based on doll behaviour and mental state as reported by the child. We are interested in getting a sense of subjective distress in the doll child as well as distress inferred from behaviour. A first rating is made strictly on the basis of the communication made by the child. A second rating is based on the examiner's assessment of the *actual* degree of assuagement independent of what the child says. This is to allow recording of situations where the child maintains that the child doll "feels better" when it is apparent to the examiner that there is a good deal of evidence to suggest that this is not the case. Ratings here equate to different "shapes" of the notional "graph" of the attenuation of arousal during the vignette (see page 4)

NB: In a number of the vignettes the trigger includes a state of hurt in the child, e.g. vignette 3, hurt knee or vignette 5, tummy ache. The coding of assuagement here should be in relation to the *distress engendered by the hurt rather than the hurt itself.* We do not expect the child to represent a tummy ache or cut knee resolving in a magical fashion. Indeed, in the most secure narratives the child often shows the pain or illness realistically continuing for a time: the appropriate care giving assuages the distress however and generates reparative strategies to help.

Scale 2K: Assuagement (child report)

The child's report in response to probes in conjunction with evaluation of behaviour played out in the narrative.

1. Significant escalation of distress during the course of the vignette and no evidence of resolution or assuagement.
2.
3. Level of distress neither increases nor modulates during vignette.
4.
5. Significant resolution of the distress but somewhat slowly with interruptions.
6. Good final resolution of the distress with either some time delay or some difficulties.
7.
8. Prompt complete and satisfying resolution within the vignette.

Scale 2L: Assuagement (rated by observer)

Rating here is inevitably inferential, but it should be based on observed information rather than indirect theoretical inferences (e.g. invoking mechanisms of denial that are not verifiable from the observations). It should be possible to support codings with specific instances in the tape.

1. Significant escalation of distress during the course of the vignette and no evidence of resolution or assuagement.
2.
3. Level of distress neither increases nor modulates during vignette.
4.
5. Significant resolution of the distress but somewhat slowly with interruptions.
6.
7. Good final resolution of the distress with either some time delay or some difficulties.
8.
9. Prompt complete and satisfying resolution within the vignette.

EMERGENCE OF EXPLORATORY PLAY

In theory, a satisfactory resolution of arousal will often give way to a different behavioural pattern of exploration. This exploratory play will have a relaxed, imaginative, progressive and enjoyable quality and relate to imagination and mastery. It needs to be distinguished from displacement activity (see above).

Occasionally an inappropriately early probe from the examiner interrupts the child's story. These children might well have returned to exploratory play had they not been interrupted and in many cases there are clear clues that lead one to believe that the child was developing an exploratory play theme prior to the interruption. These children should receive a pro rated score for exploratory play.

Scale 2M: Exploratory play

0. No exploratory play seen.
1. Limited exploratory play - not well developed/elaborated. Poor quality. May show displacement.

2. Good well developed and elaborated exploratory play seen. Includes a "fresh quality" to the content with the topic moving on.

CHILD'S PREDOMINANT AFFECT THROUGH VIGNETTE

Here an initial distinction is made between an affect that changes and becomes modulated through the vignette as the child's arousal and behaviour is modulated, and a mood state that remains inflexible and predominant and unmodulated throughout.

Scale 2N: Affect

1. Modulated flexible affect appropriate to task context.
2. Overwhelming unmodulated and preoccupying affect throughout vignette:
   - 2.1 Positive affect (happiness, brightness, overbrightness).
   - 2.2 Negative affect (anger, sadness, fear etc).
   - 2.3 Oscillating affect.
3. General minimisation of distress or arousal or attachment related themes throughout vignette.

BIZARRE THEMES

Bizarre content is separated from 'disorganisation' (see below). Bizarre themes are those that do not relate to the task of the interview ('reality based') and frequently take on a nightmarish quality with death of child or parent, parents eating children, flying destruction etc. Care must be taken to distinguish themes that may be normally expectable (and hence reality based) in relation to the vignette – e.g. monsters in the nightmare vignette or hospital visits in the tummy ache).

Scale 2O: Play Content

1. Reality based.
2.
3. Basically reality based but with magical appearance/disappearance of characters. Elisions and jumps having a magical causality.
4.
5. 70% reality, 30% fantasy.
6.
7. 30% reality, 70% fantasy. (Bizarre themes ++).
8.
9. 100% overwhelming bizarre and fantastic play.

CODING THE PREDOMINANT STRATEGY OF ASSUAGEMENT IN THE NARRATIVE

This section records categorically the key behavioural pattern in the interview. Identify the *predominant* strategy used by the child in the vignette to assuage distress by best fit to the definitions below. Code on the information available so far in the coding. The predominant strategy rated here will usually co-vary with the final attachment categorisation of the vignette but the latter task is a separate exercise which takes into account the state of mind codings.

Representation of both child and parental behaviour is included within these codings. This is based on the theoretical assumption that the internal working model of attachment includes the representation of both sides of the interaction. Assignment of a predominant strategy does not depend on whether there is assuagement or not. In particular, one can get assuagement with a non-secure strategy (particularly 2.1) and in a minority of cases a secure strategy can be represented in which there is incomplete assuagement (in particular in 1.4).

Code main strategy 1-4 and sub codes within each strategy. Other less predominant strategies identified can be coded as alternates: viz 1.2/2.1

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1. Interpersonal (Secure) Strategy

In this strategy the child clearly represents an interpersonal transaction that results in the assuagement of distress. This will largely be seen by communication or proximity to the caregiver and acceptance of care giving and consequent assuagement. The child will spontaneously turn towards the other person to share and resolve distress. It is clear that the child's expectation is that distress will be largely mediated through contact with another.

1.1. Interpersonal strategy but with elements of avoidance or restriction. Proximity scores 4 - 7. Parental reaction low on warmth. There may on occasions here be initial avoidance or restriction but with a clear "warming" through the vignette to more contact.

1.2. This is a "default" secure category. For patterns of interpersonal strategy which are not easily codeable in other sub categories of this section. In this category, the parental reaction may be less than optimal, and the child may show significant independence. For instance, the child may need to make a lot of noise to attract mother's attention or may gain very swift assuagement and run out of play.

1.3. Optimal version of interpersonal strategy. Here particularly the child will represent a dyadic interaction: parental reaction will be warm, concerned, appropriate and well timed. There will be high scores on assuagement and exploratory play.

1.4. The essential concept in 1.4 is that continuing assuagement *depends on* continuing contact with the caregiver. This "contact maintenance" can be achieved in various ways; an example would be the child who does not get out of the maternal bed after the nightmare vignette. A consequence of this is that there will be less high scores on assuagement and less high

scores on exploratory play since a characteristic of this category is that the child does not easily move on to the exploratory phase of the attachment cycle.

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2. Non Interpersonal (Avoidant) Strategy

In this strategy the child uses predominantly non-interpersonal means to assuage distress, this will involve a focus towards self-care or displacement strategies or denial of the original distress. Lack of representation of interpersonal behaviour will be seen by a lack of proximity seeking (low scores on proximity scales) or one transient ineffectual interpersonal bid. This lack of interpersonal bid is complimented by increase in displacement and self care strategies reflected in those scales. The other phenomenon commonly seen is "restriction"; when the child will suppress any representation of distress, leave the parent out of the narrative, or where the child does not alert parents to feelings of distress. Self help strategies may be used independently of the parent's knowledge, i.e. the parent may get on with their activities in the narrative without knowing about what is happening to the child.

2.1 Highly avoidant. Here there is a complete and sometimes highly organised form of the avoidant strategy. Sometimes, this organised form will be apparently successful in assuaging distress thus high scores on the assuagement scales are not incompatible with this category. There will be high levels of restriction of attachment themes, or overwhelming use of self-care strategy.

2.2 Weakly avoidant. Here the avoidant strategy is less complete and organised and will often need a "top-up" of interpersonal contact with the parent outside the theme of attachment e.g. making a meal together. Interaction may be minimally represented, e.g.. no voice for the mother doll. No effective interpersonal contact.

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3. Ambivalent Interpersonal Strategy

Here the child will look towards interpersonal contact but in an ambivalent way. Often the strategy will seem to promote as much as assuage any distress and will often involve contradictory behaviours. However, there will be inclusion of another person within the behaviour and the child will spontaneously reach towards contact with another in this context.

3.1 Interaction promotes distress. There is characteristic dispute and anger. Vignettes tend to be long. Initial distress and interpersonal contact evolves into conflict between mother and child around non-relevant issues, e.g.. clothes and eating, or child introduces new action into the narrative that creates a new focus for ongoing distress or anger. NB to code here anger must be dyadic between caregiver and child rather than some more diffuse anger/aggression in the vignette.

3.2 Passive. Weak signalling of distress, weak but clear use of the other for Assuagement. Assuagement will be poor. An example would be a child who asks for Assuagement and then passively hides.

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4. Chaos or Lack of Clear Strategy

This coding is characterised by an absence of any predominant strategy or assuagement within the vignette. The child's behaviour will not show goal directedness or else will be internally contradictory or show high levels of motivational conflict. This category should only be used when it is clear that there is no predominant strategy that can be coded. A best alternative coding should be made. See section 4 on "coding attachment disorganisation" for further discussion of this category.

4.1 **Complete chaos**. This is a coding for narratives in which there is a lack of structure and complete lack of overarching strategy or an apparent absence of capacity to mount a strategy at all. The coding of 4.1 is based on the narrative quality rather than any inference as to aetiology although experience suggests there are likely to be two forms of problem underlying these narratives:

(a) a group with developmental difficulties who fail to engage effectively in the task at all (e.g.. significant comprehension difficulties or attentional disorder) (**4.1d**);

(b) children who understand the task but go on to exhibit highly chaotic behaviour. These children will often appear to be highly traumatised (**4.1t**).

4.2 **Use of multiple strategies**. Here the child uses a number of different and incompatible strategies for assuagement during the course of the narrative, none of which have predominance and none of which are effective in finally assuaging distress. The use of up to 4 sequential strategies can be coded in 4.2, use of more than 4 strategies will be considered completely chaotic and code into 4.1. Note any brief strategies in sequence Thus 4.2/1.1/3.1/2.1. Avoid coding "cusp" B/A or B/C cases into this category. However a common pattern coded as 4.2 will be a mixture of avoidant and ambivalent ("A/C").

5. Control of caregiver

This category is distinguished by the initial absence of the signalling of distress or dependency by the child and the *substitution* of one of two forms of active control of the caregiver at the critical juncture of assuagement in the attachment cycle.

5.1 "Coercive/angry" control, where the child will order the parent around, direct them, force them off in play into journeys or (often dangerous or damaging) situations. There may or may not be anger actively displayed, the critical issue is control of the caregiver at a critical juncture, e.g. in the hurt vignette, the child tells the mother to "get the plaster".

5.2 "Solicitous" control. The focus may be initially shifted to the welfare or safety of the caregiver or the child may need to do an initial activity for the parent in order to get them into a situation where they will care. E.g. child makes a meal for the mother before being able to express distress.

A note on cusp codings between avoidant/secure and ambivalent/secure

Avoidant/secure. The following weight towards a secure (1.1) coding:
(a) the child represents an interpersonal transaction that has an effect i.e. there is assuagement of some degree, and the child is affected by the contact with their parent;
(b) there is an absence of predominant self-care strategy in response to distress;
(c) a high degree of restriction within the narrative of evidence of distress, signalling of distress, parental reaction or a general absence of attachment themes will suggest an avoidant coding. Initial transient restriction which then warms to an effective interpersonal contact will be within the secure category;
(d) children who show an interpersonal communication "at a distance" or symbolically which is still effective will be coded as 1.1;
(e) if a child makes 2 or more bids for contact despite being rebuffed, in other words repeatedly seeks interpersonal assuagement, this will code 1.1;
(f) in these cusp codings, the represented child behaviour is the dominant factor although the parental reaction has an influence.

Ambivalent/secure strategy. The essential difference between a 1.4 and the ambivalent category lies in the effectiveness of the interpersonal contact. In 1.4 there is a degree of contact maintenance that does not escalate into an angry or ambivalent interpersonal conflict. Assuagement may be only moderate. In the ambivalent category, however, the interpersonal contact is not satisfactory or containing. Typically, the child needs to increase the signalling of distress in some form through continuing or escalating distress, whiny behaviour or irritable, angry interaction. There is escalation into angry or ambivalent conflict. Assuagement is likely to be low.

SECTION 3: CODING STATE OF MIND AND NARRATIVE COHERENCE

These codings are based on evidence from within both phases of vignettes. Aspects of the *care giving behaviour* can inform ratings of coherence and other state of mind scales: e.g. incongruities between the ascribed state of mind of the caregiver and the caregiver's behaviour mismatch or incongruity between parental behaviour and child response (particularly in "quality"). Incongruity between child report of assuagement and observer rating of assuagement is particularly valuable in looking at incongruity. Displacement and motivational conflict also influence coherence ratings.

COHERENCE OF DISCOURSE

Ratings of narrative coherence are modelled on the coding in the Adult Attachment Interview (Main and Goldwyn). This makes use of the theoretical work of Grice, who identified four attributes of effective discourse ("Grice's maxims"): 1) **Quality** - that communication be truthful and internally consistent with evidence; 2) **Quantity** - that it be succinct yet complete; 3) **Relevant** to the topic at hand; 4) **Manner** - be clear and orderly. These criteria are applied to the child's narrative and discourse style during the vignettes.

Scale 3A: Quality - Internal Consistency

Quality is coded on: (a) internal consistency within the narrative, i.e. where the child develops a clear and believable narrative with descriptive depth and associated detail; (b) a congruity between the content of the story the child presents and their associated behaviours.

Here evidence is gained from all sources; doll behaviour, doll state of mind, child behaviour and speaking. Particular discriminators are inconsistencies between what is said and what is communicated non-verbally and between what is said and levels of arousal in the doll behaviour. Displacement activities in child will also code here.

Ratings of Quality are also influenced by the consistency of patterns in different vignettes through the interview. Here if there is an understandable *progression* of pattern especially with increasing insight and honesty (e.g. from avoidance to anger in relation to caregiver), then coherence is rated higher than if there is a non-progressive *inconsistency* of response with no development.

1. Overwhelming violations of quality: communication is inconsistent and incongruous, many incongruities between affect and gesture and between descriptions of behaviour and the behaviour itself. Or overwhelming incongruity
2. between the child's view of assuagement and the observer's view. Discrepancy between what a child says and feels and what a child looks like. Response within/across vignettes totally inconsistent.
2.
3. Many violations where the communication is inconsistent or there are incongruities that render the vignette unbelievable.
4.

5. A small number of inconsistencies and incongruities during vignette and across vignettes.
6.

7. Good congruity. The child's emotional expression is in line with the story and renders the vignette vivid and believable. The child may show a few minor displacement violations or may be a little restriction on probes.
8.
9. High level of consistency. Integrated coherence between verbal, non-verbal, gesture, affect, prosody and behaviour. A complete and convincing consistent quality within the vignette. Progression of pattern across vignettes is coherent.

Scale 3B: Quantity (succinct yet complete)

Here attention is given to the narrative line. How brief or how full the story is represented. An analogy could be with a piece of film: is the "image" that the narrative represents clear and vivid or is it thin and indistinct or over elaborated, clogged and unclear. Is the time sequence clear or are there passages of restriction or absence? (To continue the metaphor, are there missing frames from the film). Are there gaps or missing information that render the narrative incomprehensible?

1. Either the narrative is extremely thin or under elaborated with little or no representation or action, interaction or characterisation OR the story is highly over elaborated to the detriment of communication. There may be a sense here of being "lost in your own narrative".
2.
3. Many violations of quantity: the story is incomplete and difficult to follow or is too detailed or difficult to follow. The narrative line is either clearly restricted or over elaborated.
4. A significant degree of damping or incompleteness interferes with the narrative. Irrelevancies and over elaboration is significant enough to cloud the story line.
5. The story is generally clear despite significant areas of under or over elaboration but these do not significantly disrupt or cloud the story line.
6.
7. This is a competent narrative with only minor or brief areas of restriction or over elaboration. The story is mainly concise and clear with supporting detail. We have thought of this as a "competent" or "workman-like" narrative. Code above 7 for stories that have particular additional qualities of vividness, clarity and life.
8.
9. A full and complete story with no areas of "deadness" or restriction. Vivid and alive. The detail supports the story line. No irrelevancies or unneeded information.

Scale 3C: Relevance

This scale relates to the child's success in keeping to the task initiated by the examiner in the interview and how well they are able to stay on the topic of addressing attachment themes. This means, for instance, that high scores on self-care which address the attachment issue will score highly on relevance whereas doll displacement by definition avoids the task of the interview and will code down on relevance.

1. A total violation of relevance. No grasp of the interview topic. The thread of the story stem is lost. No shape or goal directedness to the behaviour. High levels of *doll* displacement will code here.
2.

3. Many violations of relevance. The thread is almost lost and the story difficult to follow. Minimal addressing of attachment themes.
4.
5. Moderate grasp of the topic. The vignette has reasonable shape and is largely goal directed.
6.
7. Minor violations of relevance. These do not disrupt the overall line of the narrative. Minor doll displacement or diversions but the story is orientated around attachment themes.
8.
9. Topic is consistently held and child fully engaged and aware of the task. Detail action and interaction is at the service of completing the task.

Scale 3D: Manner (clarity and orderliness)

This scale records the way that the manner of producing the narrative is embedded within other aspects of the child's functioning. In good coherence of manner the child can focus on the narrative without it being interrupted by unexplainable interruptions or lapses; the child can integrate producing the narrative with social referencing to the examiner, handling external interruptions or other real life events (such as the doll's house furniture falling over unexpectedly etc.).

Children code down on this scale if other aspects of their functioning or relations intrude into the narrative task. There is an inability to keep to the boundaries of the task with jumping in, not finishing, distracting, not waiting. There is a lack of ability to appropriately socially reference to the examiner during the task; including signalling the end of the task to the examiner. They may lapse into jargon or meta speech (parental phraseology) or the introduction of odd or irrelevant material. Particularly telling is loss of the boundary between the child and the child doll within the narrative; as if the *child herself* is in the narrative and not the *child doll*.

Many of the disorganised and disorientating phenomena from within the next section will code into this section weighting down on coherence. Also weighting the coding will be - preoccupied pauses, lapses of the narrative into silence for a time while the child is clearly attending to something internal before getting back to the narrative, and high levels of child displacement.

A number of features code positively for manner. Firstly, the capacity of the child to engage with the examiner at the beginning of the task (high score on scale 1A) and continuing social referencing to the examiner through the task. Secondly, Evidence of a child's capacity to reflect on the story line (high scores on meta cognition) and to represent both sides of the dialogue.

1. Completely unable to keep to the boundaries of the task, jumping in, not finishing, distracting, not waiting, lapsing into jargon or meta speech (parental phraseology) Vague dialogue within repeated intrusions of unusual or jargonised or artificial speech. Introduction of odd and irrelevant material. Loss of boundary between the child and the child -doll in the narrative. Very high levels of child displacement (2E>8).
2.
3. Generally poor boundaries kept within the task but some evidence of engagement and social referencing.

4. A coding of 5 and above indicates that the vignette play is organised to at least a reasonable extent in an appropriate way within other aspects of the child's functioning. At 5, the child keeps to the boundaries of the task with minor aberrations but essentially the narrative is not disrupted significantly. Mild breakage of boundaries around the narrative.
5.
6. There is no breakage of boundaries around the narrative. Social referencing to the interviewer maintained throughout the narrative.
7.
8. Excellent, keeping to the here and now demands of the task, signalling at various stages and at the end. An understanding of the nature of the task and contact with the adult maintained throughout. No child displacement.

MENTALISING

These are mental state attributions or descriptions made by the child either spontaneously during acting out of behaviour or as prompted by the examiner. The mentalising scales will be initially used as they are in the AAI. That is, high levels of mentalising ability are almost always seen in the autonomous AAI group, but many autonomous cases do not show mentalising ability. Thus, it is a supportive but not essential characteristic of this category.

Scale 3E: Child of Self

0. No mentalising ability apparent either spontaneous or prompted. Unable/unwilling to describe self or parent in response to prompts
1. Some mentalising only in response to the prompt but this is limited. For instance, "I'm OK" or other vague statements.
2. Mentalising description of self evident with prompting and some elaboration given in mental state terms.
3. Able to mentalise without prompting but prompting issues more full description. A rich spontaneous, continuous and full description of self with intonation of the voice and vividness of presentation.

Scale 3F: Child Description of Mother

0. No mentalising ability apparent either spontaneous or prompted. Unable/unwilling to describe self or parent in response to prompts
1. Some mentalising only in response to the prompt but this is limited. For instance, "I'm OK" or other vague statement.
2. Mentalising description of self evident with prompting and some elaboration given in mental state terms.
3. Able to mentalise without prompting but prompting issues more full description. A rich spontaneous, continuous and full description of self with intonation of the voice and vividness of presentation.

SCALE 3G: METACOGNITIVE MONITORING

Evidence that the child is able to reflect on events as they happen in the vignette. This reflection can be evidenced by the child's verbal comments about the action commenting upon it. This can either be done spontaneously as part of "self talk" during the narrative completion or at the service of social referencing, i.e. commenting on the story to the examiner - "oh this is difficult".

0. Absent
1. Weak
2. Strongly present

SECTION 4: CODING ATTACHMENT DISORGANISATION

Introduction

Coding of disorganised behaviours in this system takes elements from both the D coding system for the Ainsworth Strange Situation Test developed by Main et al and the U system in the AAI. The approach is adapted to allow for the likely effects of the developmental age, and the ways in which early disorganisation may affect later internal representations. It is also designed to be useable in the clinical setting and to enable identification of developmental and clinical factors that may potentially confound attachment ratings within the interview- (i.e. neurodevelopmental/clinical features that may result in a narrative disorganisation which is not necessarily attachment related).

The interview allows identification and coding of 4 different kinds of disorganisation.

1. **Episodic disorganised or disorientated behaviour**
   Vignettes with transient disorganised or disorientated behaviour representing breakdowns within an organised strategy. When most significant, these episodes of disorganisation occur at critical contexts within the narrative (such as reunions or moments of care or need). The MCAST clearly reveals these behaviours and allows them to be coded. We consider they indicate traces of traumatic or unresolved experience or are markers for highly contradictory feeling states stirred up by the topic of the interview. **Rules for coding these episodic phenomena are set out in the next section.**

2. **Multiple incompatible strategies**
   The presence of a number of coexisting but incompatible attachment strategies leading to motivational conflict and disorganised behaviour. Bowlby wrote early on from a clinical perspective on the likely presence of such coexisting incompatible attachment strategies - especially in disturbed children. **Vignettes of this kind are recorded in the section on predominant strategy as a coding of 4.2.** - see page 17 for description.

3. **Controlling patterns of care giving from the child**
   A number of authors have argued that toddler D behaviour develops in the young school age child into patterns of compulsive control. Two forms of this have been identified: (a) coercive controlling of the caregiver, (b) solicitous care giving towards the caregiver. These patterns are readily identified in the Interview. **When predominant as a strategy in response to distress, these patterns are coded in the section on predominant strategy as 5.1 or 5.2. When seen as isolated incidents or subsidiary trends in the vignettes that have other attachment strategies, they are coded in Scale 2F and are not considered to signal primary disorganisation.**

4. **No identifiable strategy**
   A significant minority of vignettes (especially in clinical samples) may be unclassifiable in attachment terms on internal evidence within the interview. These are vignettes with **predominant strategy 4.1** - see page 17. Additional external data is needed to understand the nature of the disorganisation.
   Such pervasive disorganisation may commonly be the result of:
   - developmental disorder (e.g. SLD, PDD, ADD, LD) making adequate vignette engagement/completion impossible: 4.1 (a)

- pervasive disorganisation due to high arousal/anxiety (which may be post traumatic): 4.1 (b).
- or a combination of both

EPISODIC DISORGANISED OR DISORIENTATED (D) PHENOMENA

Vignettes with a predominant strategy but which show the presence of episodic disorganised or disorientated behaviours. When most significant these phenomena are seen in critical points of the narrative (such as reunions). They represent interruptions of or intrusions into the narrative flow. Episodic D phenomena may be identified within the narrative represented by the child or in the child's own behaviour while playing out the narrative. Disorganisation in each form is conceptualised separately below for clarity; in practice they usually coexist. A combined rating of episodic D is made on scale 4 below.

Disorganised, bizarre, unusual, disorientated behaviours represented in the vignette completion

(a) Simultaneous or immediate juxtaposition of contradictory behaviours. E.g. Strong proximity seeking then freezing.
(b) Unexplainable sudden shifts into contradictory behaviour out of context e.g. during a smoothly unfolding narrative, a sudden injection of distressed angry behaviour for no clear reason. Included can be a sudden attack in the mother doll out of context.
(c) Lapses incomplete movements, freezing, stilling, in the narrative.
(d) Direct evidence of fear of the parent
(e) Apparently confused disorientated distracted behaviour. Absence of any initial orientated response to the distress.

Child disorganisation/disorientation during vignette completion
Refers to behaviour of the child (not the child doll) during the vignette. Disorientation scores relate to both overt behaviour and dialogue. Included are errors, consistencies and unusual content such as: (a) failure to complete a sentence or behaviour (sudden stopping in the middle); (b) lapse into silence or stillness. c) episodes of dissociation or "spacing out" where the child suddenly appears to lose track or become dazed or confused. This links conceptually to the recording of disorganised behaviour in the child - doll: and the two will usually strongly covary.

Scale 4 Episodic D scale

1. No evidence of bizarre disorganised behaviours
2. Slight signs of disorganisation
3. Mild and infrequent episodes of disorganisation or confusion as defined above. These do not substantially interfere with the narrative or with the child's thinking process and rapport. They represent minor "blemishes" on the narrative.
4.
5. Moderate evidence of disorganised, disorientated phenomena in complexity, intensity, abnormality, or frequency. These abnormalities definitely intrude into the narrative and make their presence felt but are still relatively minor.
6.

7. Very significant incidents of disorganised, disorientated phenomena. Striking single incidents or a high frequency of moderately abnormal phenomena. The narrative is definitely interrupted by these.
8.
9. Very severe and intense disorganisation/disorientation.

OUTCOME RATINGS FOR ATTACHMENT DISORGANISATION: DERIVING A 'D' SCORE AND CATEGORICAL 'D' CODE

From the different forms of attachment disorganisation rated we derive a continuous 'D' score and a categorical D coding.

For the D score:
If the predominant strategy is 1, 2, or 3, the D score is derived from the coding on Scale 4 (i.e. the episodic score).
If the vignette classified as 4.1, 4.2, 5.1, or 5.2 then a D score of 7-9 is assigned depending on judgement as to severity. (In these vignettes there is then an episodic score that is different from the total D score).

For the categorical D coding
Use the following thresholds on the D score:

(i) Under 4.5 total score. No overall D coding. In this category should be mild or transient disorganised phenomena as detailed above. No phenomena should be of high amplitude or abnormality in itself and there should not be too many minor episodes of disorganisation.
(ii) 4.5 - 5.5 "alternate D coding". Coded here should be significant disorganised and disorientated phenomena that clearly mark the vignette out from others. The phenomena do not however reach a level of intensity, abnormality or disorganisation to warrant a primary D coding.
(iii) 5.5 and above. These are disorganised or disorientated phenomena of such frequency or intensity that they warrant a "primary D" code.
Multiple or coercive strategies (4.2 or 5.1/5.2) automatically code as primary D.

SECTION 5: PROCEDURE FOR OVERALL CODING OF INTERVIEW

1. ESTABLISH KEY VARIABLES FOR EACH VIGNETTE

1) Predominant strategy

2) Mentalising/metacognition.

Average of scales 3E, 3F and 3G

3) Coherence of Mind

Average of scales 3A, 3B, 3C, 3D

4) ABCD classification.

The ABC classification will normally follow that for predominant strategy. Thus 1 and its sub codings become B1 - 4; 2 becomes A1 or A2; 3 becomes C1 or C2. Predominant strategies 4.1, 4.2, 5.1, 5.2, are coded D.

Occasionally the ABC classification will not follow "predominant strategy" - when other variables powerfully intervene e.g. when a secure strategy shows very low levels of coherence this may shift the categorisation either between sub categories of secure (i.e. B3 - B2) or from secure to D.

5) D score

Using criteria in section 4

2. CODING THE WHOLE INTERVIEW

The key codings on the vignettes are combined at the end of the interview into an overall scoring and categorisation for the whole interview. These are the guidelines.

ABCD category

- The predominant vignette coding across the whole interview generally determines the interview coding.
- But if 2 or more of the vignettes are rated insecure or disorganised, the whole interview must be rated insecure/disorganised.
- Primary D interviews are sub coded with the best fitting alternate category or categories - thus D/A/B or D/B/C.

Mentalising/Meta Cognition score

- Average of MM scores across all the vignettes.
-

Coherence of Mind score

- Average of the CM for each vignette.

MCAST CODING SHEET

NAME…… DOB……

INTERVIEWER…….. ……. DOA……

PHASE 1

	b'fast	v1	2	3	4	5	6
1A Engagement							
1B Arousal							
1C Turntaking							

PHASE 2

	b'fast	v1	2	3	4	5	6
2A Proximity child to mother							
2B Proximity mother to child							
2C Self care							
2D Displacement (doll)							
2E Displacement (child)							
2F Reversal							
2G Conflicted behaviour							
2H Carer sensitivity							
2I Carer warmth							
2J Carer intrusiveness/control							
2K Assuagement (child)							
2L Assuagement (observer)							
2M Exploratory play							
2N Affect							
2O Content							
PREDOMINANT STRATEGY (1-5)							

STATE OF MIND	b'fast	v1	2	3	4	5	6
3A Quality							
3B Quantity							
3C Relevance							
3D Manner							
3E Child of self Mentalising							
3F Child of mother Mentalising							
3G Metacognition							
OVERALL COHERENCE OF NARRATIVE							

D PHENOMENA

	b'fast	v1	2	3	4	5	6
Scale 4: Episodic D phenomena							
OVERALL D SCORE							

OVERALL CATEGORISATION:

Predominant strategy .....
Coherence of mind .....
Classification.....

Metacognition/mentalising.....
D score.....

NOTES:

Appendix K.1. LIST OF TOY CHOICES

List of toys provided during the observation tasks

Child and Parent Free-Play, chose from:-

- *Toy tea set and cups*
- *Cars and farm animals*
- *Play-mobile park set*
- *Play-dough and accessories*

Construction (Lego) Task, research selected from:-

- *Duplo set and a picture of a previously constructed Duplo aeroplane*
- *Lego set and a picture of a previously constructed Lego man*

Appendix L.1. - PALS INSTRUCTIONS FOR VIDEOING PLAY

Setting up

1. Lights should be behind the camera to light the subject. AVOID FILMING INTO THE LIGHT e.g. point the camera away from the window.

2. Sound: ensure T.V., washing machine is turned off.

3. Remove the bags the toys are in to avoid rustling. Check the Lego and Duplo boxes to ensure figures are completely broken up.

4. Put the toys on a mat if a table or other hard surface is being used, in order to reduce extraneous noises which the microphone will detect.

5. Avoid making eye contact with either the parent or the child once the videoing has started.

6. No discussion with the parent during taping except to give Lego instructions and only praise at the end.

7. **SET TIME** (n.b. this is different to the counter, time normally appears in the bottom right hand corner). If you forget and then remember to do this half way through filming, still set the time at this point.

8. PALS Silver Camera – have Zoom Microphone facility switched on. Do not use plate mic. as this will deactivate the zoom mic.
   PALS Black Camera – have the Plate Microphone attached and switched on at the lead. Take earphones so you can play back to ensure you are recording sound.

Appendix L.2. Instructions for Play Task

1. Before getting the toys out

The experimenter speaks to the parent to give the instructions.

A. "We are interested in learning the different ways parents and children do things together. For the next 20 minutes or so, we are going to have you and your child play with some toys that we have brought along. I am going to have you and your child play with the toys in different ways and do different things. Altogether there are three different play tasks. Each one lasts about 10 minutes or so.

In the first play task you tell your child that he/she may play with whatever toys he/she chooses. You just follow your child's lead and play along with him/her, and when you have finished just push the toys to one side, they will be tidied up later.

In the second play task, you will use Lego bricks and you will have your child build a figure. I will give you more directions about this when its time.

The last play task is Tidy Up. We want you to get your child to pick up the Lego or Duplo and put it back in the box and to also put away the other toys they have been playing with.

I will let you know when to go from one play task to another, and please remember to leave the tidying up until the end. Try to pretend that I am not here.

It is important that both you and your child stay in the room while you are playing with the toys. If your child leaves the room, please bring him/her back. If you have to answer the telephone, please talk as briefly as possible or ask if you can call back later, OK?"

The experimenter then says to the child:-

B. "For the next 20 minutes or so, you and your mum/dad are going to play with some toys that I have brought along. You will play with the toys in different ways and do different things. I won't be able to talk to you until right at the end, OK? Good. Lets get started".

The experimenter lays out the toys (except the Lego and the Duplo) on the play area chosen by the parent.

The experimenter sits away from the play area (so they are less obtrusive), but where they can get a good view of the parent and child.

2. Starting the Play

The experimenter says:-

A. "OK, let's start the first game now".

This task lasts 10 minutes.

B. "Now it's time to play your game".

This task also lasts 10 minutes. Then the experimenter says:-

C. "OK, now we will try something else. This time, we'll play with the Lego/Duplo blocks. Lets take them out and spread them around on the floor". [Interviewer pours out the Lego or Duplo].

"Here is a picture of a figure that we would like [child's name] to build".

If Duplo:-

"We want you to help [child's name] with the figure as you think he/she needs. There is only one rule: Mum/Dad, you are not allowed to touch any of the blocks. So, you can help [child's name] by talking to him/her or by pointing to the picture or the Duplo, but you are not allowed to touch any of the blocks, OK? We will do this for a few minutes, and we'll see how far you can get. And have fun! OK, lets start".

If Lego:-

"It's a big figure, and it is one that is hard for some children to build, so we want you to help [child's name] with the figure as you think he/she needs. There is only one rule: Mum/Dad, you are not allowed to touch any of the blocks. So, you can help [child's name] by talking to him/her or by pointing to the picture or the Lego, but you are not allowed to touch any of the blocks, OK? We will do this for a few minutes, and we'll see how far you can get. We know you can't finish the whole figure, but get as far as you can. And have fun! OK, lets start".

This task lasts 10 minutes.

Then the experimenter says:-

D. "You did a really good job on it. Now please could you get your child to tidy up the toys".

This task lasts 5 minutes.

-END OF THE VIDEO TASKS-

Appendix M.1. - Example of transcript for inter-rater reliability

NOTES on Coding this Trancript:

1) All the sentences that appear between brackets refer to behavioural interactions between parent and child without indication of any verbalisations being made.
2) Sentences that appear out of brackets refer to verbalisations that took place during the interaction.
3) Segments of text where "spaced empty brackets" appear - i.e. the symbol ( ) – refer to specific forms of verbalisation that were not possible to comprehend while the transcript was being made.
4) Intervening participants in this observation are: mother (M), and child (C).
5) Every task to be coded (i.e. free-play, Lego task, and tidy up task) is properly timed (n.b. confirm initiating and ending times of each time while observing each tape of each dyad).

SPOKES Videotape – Initials: B. P. – Observation date: 31.3.99

Free Play
Starting time: 11:06:04

M: Only one thing?

C: Yea (pointing)

C: White…White (picks up the tube from mum)

C: Can't get it out

(Mum watches child until this one opens the tube alone)

M: (Clears table to give child space) and says: Put it here (taps the table to order where to put it but doesn't give time child to comply and takes tube out of child's hands putting it in the place where she wanted it to be)

(Child is pressing the playdough on the table and mum, without suggesting anything takes the playdough from child's hands and splits it half and rolls it and puts one of the pieces in the child's hands).

(Child presses and stops and mother presses playdough but again giving no suggestions on how to move the play along).

M: Make these

(Child complies and starts pressing playdough)

(Mother looks at child and laughs…then child laughs at her…then mother picks the playdough from child and starts rolling. Mum moulds, and child starts to press playdough at the same time as mum…Child takes playdough out of tube and mum asks laughing warmly) - M: What's this 'B' - [child's name]?

C: It's a rabbit?…

M: Yea…(and takes the playdough from child)…

(Child takes another tube while Mum is playing with the other white playdough piece and this makes child to redirect attention to what the mother is doing. Child presses the same playdough as mum and this one allows it)…

Child: "A duck!" (and puts piece on the table)

(mother looks bored and not involved in task, and passively says) - M: "A duck" ….

(When trying to pick another piece, the child picks one and says) - C: "A Butterfly!" (and gives to mum)…

(Mum passively asks) - M: "Yea?"…A butterfly?….

(Child doesn't answer and picks the piece from mum and mother laughs at child)…

(Mum takes the piece from child and plays alone…Then child takes the piece again to mould the playdough and Mum observes and gives time to child)…

(Child gives piece to mother and mother moulds it again) …

(Child takes a different object saying) - C: "Knife"…(gives it to mother and this one asks almost whispering) - M: "knife?"…(then, says, whispering) - M: "play, play"…

(Child asks vividly) - C: Can I play? ….

(Mother says, whispering) - M: yea…

C: Myself?…

(Mother says, whispering) - M: yea.

(Child struggles to open tube and says) – C: "I can't"…(Mum doesn't offer instrumental help but says) - M: "Slowly, slowly, Ok?"…

(Child opens the tube alone)…

C: Yes…

M: Which one? Which colour? This one? (Mother picks the tube that child is holding).

C: Blue!

(Mother points at a different coloured playdough and asks) - M: And this one?

C: White!

M: White, yes!

(Mum picks up a red object and child says) - C: "I know what to do that!

M: this?

C: Yea, yea…

M: what?

C: You put it down…(interruption by a third child with instructions ending in spaghetti, and child repeats) - C: Spaghetti!

(Mum laughs to child and answers) - M: mmm.

(Child takes blue playdough out of tube and says to mum) - C: Can I play myself Mummy?…

(M. says whispering) - M: yea.

(Child picks up a big piece of playdough and tries to stick it in the piece to make the spaghetti and mother says whispering) - M: "A little bit".

(Child splits it up complying with mum's order. Mum helps child to put 2 pieces together. Child did it and laughs to mum and mum smiled and then Mum says) - M: put it here.

(Child tries to twist the toy to make spaghetti and it finds it difficult and mum says) - M: "press it!"…

(Child tries and complaints whining a bit) - C: Au!…

(Child continues trying alone with no help and after looking at mum 2 times then Mum laughs and says very quietly) - M: Oh…good …(then offering instrumental help she says) - M: "here, here, here" (and presses the toy herself and the blue spaghetti comes out and says to child) - M: See? (And Child laughs loudly).

M: spaghetti

C: Spaghetti…get that one for me!" (about a little bit that fell off).

(Mum gets the bit that fell off to child and Child says) - C: Can I do another one?

(Mum whispering says) - M: Yea.

(Mum gets blue playdough for Child)

C: Put this one.

(Child splits 2 red pieces and shouts) - C: oh!

(Child Laughs and Mum smiles).

(Child alone, observed by mum puts blue playdough into red piece to do spaghetti and mum says whispering) - M: "That's right"…

(Child looks at blue playdough in her hands and says whispering) - C: I can wash my hands. (Mum gives space so that Child can press the toy to make spaghetti) …

(Child presses and becomes difficult and child becomes out of breath and says to Mum) - C: "It's a hard one Mummy"

M: "A hard?" (and helps child pressing the toy and the blue playdough turns into spaghetti saying) - M: Look…See?.

(Child says enthusiastically) - C: A big one!

(Mum says, laughing) - M: You like spaghetti?…

C: It's very curly warm! (laughing, and asks): Do another one?

(Mum laughs and whispers) - M: yea, it seems Ok…(Laughing together while child laughs and says to mum) - C: Look! (about a blue piece of playdough left).

(3rd child interrupts and this Child says - C: I know how to make them!". Mother was preparing the blue playdough to help the child to do more spaghetti).

Ending time
11:10:51

Lego
Starting time: 11:11:51

C: the black things…I can't make it…I can't make it…(mother observes all the time while child tries to put pieces together seeming annoyed)

M: (touches pieces, which she can't do in this task)…

C: Is not the same as…

M: No…(touches pieces again and puts them together as they should be and child observes looking bored and intrigued at the same time)…

C: Where is the other one? The same as this one (points at piece of Lego)

(Mum picks the yellow piece that goes with the other one and gives it to the child).

(Child puts 2 yellow pieces together but Mother puts them together better than the child did).

(Child points at picture and says) - C: "This long thing?"

(Mum picks the piece up and gives to child)

(Child tries to add this piece and can't do it and says) - C: "Together" (and child puts the pieces together while mother puts them apart instead and she says whispering) - M: "Like this" (but makes the whole thing to collapse)

(Child pulls a face, like upset)

(Mum is building the toy alone and Child observes passively)

(Child points at picture and says) - C: And then you leave this thing white! (She picks the white bit and tries to put it together to build the toy but she can't control he balance and the mother holds the toy for the child to be able to add this white bit to the toy).

(Mum picks another white bit for child and with her hands holds the child's hands to add a new piece but the whole thing collapsed again because of the pressure of both hands!)

C: Oh! Oh, no! … (laughs, while mother picks the pieces out of the floor…Child also picks pieces bits from floor and says) - C: "the one down under!"... "Have to start again"

(Mum holds the pieces together and child adds the white bit)

(The white bit slips and child she says) - C: Oh! (And then she is able to stick it to the toy)

(Mum adds new piece alone)

(Mum gives the child another piece and says) - M: use it here…'B' - [child's name]…(mum looks serious)

(Child accidentally throws the toy on the table and mother laughs and puts it together again)

Child points at picture and says) - C: And then you need all those blue things…

(Mum picks up a white bit and child shouts) - C: Blue things!

C: Oh! It's finished?

M: yes (but adds a blue piece)

C: All the blue things! (Mother picks another blue piece as the one before wasn't suitable to fit in the toy and puts this new piece together with the toy while child observes).

M: Look…(puts the blue piece in toy)

C: there

(Mother picks another blue piece to add to toy and says) - M: And this one here…here…

C: yea…(mother then continues and puts the piece herself)

C: the bits?

M: here, here (holding the toy for child to see where)

(The child knocked the last piece the mother put together and then mum says) - M: Oh! 'B' – [child's name]! (loosing patience)

(Mother holds toy and only when she thinks the toy is correctly made by herself she says) - M: Ok

(Child tried to pick up a blue piece but because she couldn't put it together the mother immediately took the piece out of the child's hand and puts the piece in the toy not giving the child a chance!)

(Mother continues choosing the pieces and putting them together in the toy while child passively observes what mum is doing with the Lego. While putting the pieces the only thing the mother does is saying to child) - M: see?

C: Yea.

M: (holding a 3rd blue piece) then, put here another one (the mother puts it not the child)…

M: Yea, see? (Child nods with head).

(Mum continues finishing the Lego saying) - M: Ok?

Child passively nods to what mum is doing).

(When finishing Mum says) - M: Like this…

C: Yea

(It was the wrong piece and Mother again is the one who picks up the right piece and adds this one to the toy and says) - M: Like this.

(Child points to picture and says) - C: And then you need them a neck???…A face! A face! This one

M: yes

(child picks up a red piece and the child adds this piece to toy and says) - C: Any face watches. And then… (she tries to pick something up)

(then mother says) - M: and then…(mother is sorting other pieces and child says) - C: the yellow things…The yellow thing…

M: yellow things?

(And child picks up and says) - C: up…here (and points to toy)

(and then the mother adds the piece herself saying) - M: Ok.

Tiding up task – starting 11:18:07

M: 'B'- [child's name], tidy up!

C: Where is the box? Where is the box?

(Mother gives her the box and Child says) - C: Let's play another game

(Child puts the toy inside the box and the mother takes it out and is not clear the intention…and then Child puts it back again…then goes on and continues to tidy up)…

C: Next is this "ANGUS"…(tries to put it in the box and mother takes it out of the child's hands saying) - M: No (mother bored, annoyed)…

(Mother pushes box towards her and picks up the other set of toys with the playdough and Child says) - C: Play this again! (laughing enthusiastic)

M: No…Tidy up this bit!…Come on!…

C: Let's start again!…

(Mum says impatiently) - M: No (taking toys out of child's hands) …

M: close this like this…

C: I want to play again!…

M: No…not now…

C: Till this is finished?…

M: Yes, all finished!…(Mother is now tiding up herself)…

M: Put it here…Like this…Yes…

C: Next these animals…Dinosaurs! (laughs) (she is playing with the dinosaurs…Mother picks up a plastic bag and says) - M: In there, all things!…

(Child complies but says) - C: And some there! (wanting to play still)

M: No…(Child complies)

Ending time: 11:21:43

Appendix N.1. - Score Sheet for the Parent Behavioural Coding Scheme (PBCS)
Observations for Inter-rater Reliability

Abbreviations for each code:

I = Interrogative; A = Neutral Attend; SC = Seek Co-operation; α = Directive α; C = Compliance; Ack. = Acknowledge; β = Directive β; + = Attend positive; F = Facilitation; P = Praise; No = Prohibition; Cr = Criticism; M = Mental State; T = Teach.

1st Observation
Scores: (i.e. Frequency counts)

Free Play:	Lego Task:	Tidy Up:
I =	I =	I =
A =	A =	A =
SC =	SC =	SC =
α =	α =	α =
C =	C =	C =
Ack. =	Ack. =	Ack. =
β =	β =	β =
+ =	+ =	+ =
F =	F =	F =
Cr =	Cr =	Cr =
P =	P =	P =
No =	No =	No =
M =	M =	M =
T =	T =	T =

Appendix N. 2a - Score Sheet for the Coding of Attachment-Related Parenting (CARP) – (Part I): Observations for Inter-rater Reliability

Abbreviations for each code:

SR = Sensitive Responding; PPA = Parent's Positive Affect; CPA = Child's Positive Affect; PNA = Parent's Negative Affect; CNA = Child's Negative Affect; M = Mutuality.

1st Observation
Scores: (i.e. global ratings)*

Free Play:	Lego Task:	Tidy Up:
SR =	SR =	SR =
PPA =	PPA =	PPA =
CPA =	CPA =	CPA =
PNA =	PNA =	PNA =
CNA =	CNA =	CNA =
M =	M =	M =

***Ratings based on the CARP's scoring criteria – see Part II of this score sheet**

Appendix N. 2b. - Score Sheet for the Coding of Attachment-Related Parenting (CARP) - (Part II): Coding of Observations according to Scoring Criteria

ID_____ Activity_____

Sensitive Responding • Does Parent offer verbal/instrumental help when child stuck in play? • Does Parent offers help when child has no clear agenda and/or lost? • Does Parent offer help if child asks for it? • Is Parent attentively engaged in what child is doing? • Is Parent aware of child's mental/emotional states? • Does Parent facilitate despite no signals from child? • Does Parent encourage/promote child's autonomy? • Is Parent warm towards child?	
Parent Positive Affect • Is P enthusiastic, happy, and/or smiling? • Does P have a +ve tone of voice?	
Parent Negative Affect • Does P shows –ve facial expressions? • -ve body gestures? • Lacking enthusiasm? • Is P critical or rejecting?	
Child Positive Affect • Is C happy, smiling, and/or enthusiastic? • Is C's tone +ve?	
Child Negative Affect • Does C show –ve facial expressions? • -ve body gestures? • Lacking enthusiasm? • Is C negative in response to P?	
Mutuality • Does C initiate activity and involve P? • Do C & P turn-take and work together? • Are C & P attentive to each other in what they are saying or doing? • When P smiles does C smile back? • Do they imitate each others' words/behaviours? • Is there fluid conversation? • Are they facing each other and are they close together?	

Appendix O.1. - Coding Meetings for Random Reliability Checks Summary of Scores

1. Summary of Attachment & Parent and Child Global Scores – Coding Meeting of 22nd April 2003

1.1. Observation – Initials: R. A. (PALS 5/7/02 & 19/8/02) – TIDY-UP TASK

Attachment Codes:

SR = 1 (This mum is distinctively unresponsive; no evidence of facilitation throughout entire interaction or of any other responsive behaviour as defined in the criteria for coding "Sensitive Responsiveness");

PPA = 3 (Not consistently positive. However, there were two "bursts" of giggling/laughs and shades of smiling to the observer. Those two strong examples of laughing are still coded as Positive Affect even if this happened at the expense of the child – i.e. mum laughs in sarcastic way – as laughing is related to mother's positive mood regardless of what type of interaction she is having with the child. If we were here concentrated in coding the affective interactional style, we would be coding warmth and not positive affect);

PNA = 5 (General demeanour of negative affect throughout interaction. However, this mum does not show very strong examples of negative affect, enough to give her a 6 – e.g. she is not angry);

CPA = 3 (No intense expression of positive affect. Not generally happy. Two clear smiles and scattered evidence of enthusiastic engagement, although this is inconsistent);

CNA = 3 (Child doesn't seem angry. There is a weak whine – i.e. when asking for help. Some lack of enthusiasm. Evidence of negative affect is scattered, not strong enough to give him a 4);

M = 1 (According to the criteria for this code, this dyad doesn't provide ANY clear evidence that corresponds to the type of behaviours described in that criteria);

Parent Global Code:

PI = 1 (No evidence of intrusiveness)

Child Global Codes:

CAT = 5 (He is doing the task but seems like if he is doing it in a sort of tedious way. It took him a long time to do it but nevertheless he finished tidying up. Doubts sometimes if he was "really there" or not. A 4 is a bit low because of the persistence in which he ended up doing the task regardless of his slow pace);

CEA = 3 (Enthusiasm is low – he actually seems not to enjoy what he is doing. Although not strong evidence of enjoyment, there were some moments in which he seemed tidying up the toys more enthusiastically. However and, overall, his energy levels wavered throughout whole interaction);

CAB = 2 (One weak whine);

CSR = 3 (He does ask a couple of questions. Shade of a smile to what mum is saying. He looks at her after she gives him directives. Overall, however, these are all mild examples/scattered evidence of CSR);

CGF = 3 (In all the scores as a whole, he is not doing that well. In order to give him a 4, a bit more positive evidence of all other scores is needed);

2. Summary of Attachment & Parent & Child Global Scores – Coding Meeting of 22nd April 2003

2.1. Observation – Initials: T.T. (PALS) – Free-Play

Attachment Codes:

SR = 6 (Mum is "always there", pretty engaged, very child-focused, providing lots of facilitation, promoting autonomy, warm. Overall, she is reasonably pervasive/ very consistent – i.e. above a 5);

PPA = 5 (Intensity is lacking – that's why not a 6 or a 7. However, affect is fairly positive and is strong enough for a 5);

PNA = 1 (No evidence of negative affect);

CPA = 3 (One clear smile, and enthusiastic about play but not consistent);

CNA = 2 (2 examples of whining);

M = 5 (Shared attention, looking and talking to each other. Not a 7 as child doesn't invite mum into play. Not a 6 because child didn't respond to all input mum provided. Consistent enough for a 5);

Parent Global Code:

PI = 2 (minimally intrusive, her pace is a bit too fast)

Child Global Codes:

CAT = 7 (Completely "on task" throughout entire interaction);

CEA = 5 (Child is quiet/flat but consistently engaged – thus, enthusiasm with play is more pervasive even if not explicitly shown/displayed);

CAB = 2 (One clear whining);

CSR = 5 (Responds to mum generally. However, they're not always in the same dialogue together. Not enough for a 6 as this child is too toy-focused);

CGF = 5 (More than "average". A solid 5. Too organised for a score of 4.

Appendix P.1. - Distribution of Variables in the Study

Measures/Variables	Skew	Kurtosis	Normally Distributed?	Transformation
CARP				
Sensitive Responding	.281	-.640	Yes	
Parent Positive Affect	. 379	-.906	Yes	
Parent Negative Affect	2.357	6.818	No	Log(10)
Mutuality	.287	-.767	Yes	
Child Positive Affect	.483	-.295	Yes	
Child Negative Affect	1.538	1.836	Yes	
CGCS				
Child Attention on Task	-.649	-.215	Yes	
Child Social Responsiveness	.020	-.964	Yes	
Child Antisocial Behaviour	1.238	.421	Yes	
Child Enjoyment with Activity	.150	-.624	Yes	
Child Global Functioning	.095	-.681	Yes	
PGCS				
Parent Intrusiveness	.708	-.079	Yes	
PBCS				
Non-Comply	1.522	2.602	Yes	
Comply	.878	.070	Yes	
Criticism	4.787	25.401	No	Log(10)
Beta Command	1.263	1.744	Yes	
Prohibition	1.421	2.077	Yes	
Alpha Command	.899	.113	Yes	
Interrogative	.796	-.037	Yes	
Facilitation	1.033	.517	Yes	
Mental State	2.142	5.375	No	Log(10)
Seek-Cooperation	2.399	6.495	No	Log(10)
Neutral Attend	2.106	5.231	No	Log(10)
Positive Attend	2.208	8.307	No	Log(10)
Praise	2.206	4.84	No	Log(10)
Teach	6.407	46.790	No	Log(10)
SDQ (parent)				
Pro-social behaviour	-.843	-.087	Yes	
Conduct problems	1.564	3.251	Yes	
Hyperactivity	.671	-.060	Yes	
Total deviance	.770	.665	Yes	

SDQ (teacher)			
Pro-social behaviour	-.776	-.417	Yes
Conduct problems	1.458	1.404	Yes
Hyperactivity	.506	-.627	Yes
Total deviance	.650	-.083	Yes
PACS			
Conduct problems	.711	-.457	Yes
Hyperactivity	1.581	2.905	Yes
MCAST			
Coherence	-.206	-.320	Yes
Disorganisation	1.143	.153	Yes
Insecurity	1.103	.429	Yes
PSOC			
Total score	-.039	.911	Yes
GHQ			
Total score	.764	.647	Yes
Parenting Interview			
No Praises to child	.254	-.763	Yes
No times Smacks child	1.298	.715	Yes
Disciplinary Aggression	.027	-.662	Yes
Sensitivity	-.210	.236	Yes
Communication with child	.193	-.481	Yes
Likes child	-.237	-.712	Yes
Overall criticism	.452	-.513	Yes
Observation Composite Variables			
Parent Negative Behaviour	.745	.080	Yes
Parental Attending	.241	-.629	Yes
Chain Commands	1.650	3.590	Yes
Clear Commands	.938	.371	Yes
Child Negative Behaviour	1.459	2.437	Yes

Appendix Q.1. - Table 25: ANOVA Mean differences in observed parent and child behaviour according to parental education at time 1

	Observed Attachment-Related/Positive Parenting				**Observed Negative & Disciplinary/Harsh Parenting**				
Education Groups	Sensitive Responding *Mean (sd)*	Parent Positive Affect *Mean (sd)*	Parent-Child Mutuality *Mean (sd)*	Parental Attending *Mean (sd)*	Parent Negative Behaviour *Mean (sd)*	Clear Commands *Mean (sd)*	Beta Commands *Mean (sd)*	Chain Commands *Mean (sd)*	Criticism *Mean (sd)*
Ended school before/by 16 (n= 27)	12.11 (3.52)	9.56 (3.81)	9.85 (3.72)	5.44 (1.79)	9.15 (3.86)	90.22 (55.01)	10.11 (7.30)	44.04 (33.20)	0.71 (0.92)
Technical/Professional qualification (n=42)	9.64 (2.99)	6.93 (2.78)	7.67 (2.63)	4.65 (2.04)	10.32 (3.66)	97.21 (52.98)	9.64 (7.49)	45.74 (28.52)	1.22 (1.19)
Higher Degree (n=12)	12.33 (5.00)	8.00 (4.02)	9.50 (4.06)	5.92 (3.04)	9.58 (4.33)	87.00 (58.67)	7.58 (7.40)	42.67 (42.70)	0.72 (1.16)
All groups (n=81)	10.86 (3.70)	7.96 (3.51)	8.67 (3.38)	5.10 (2.17)	9.82 (3.82)	93.37 (53.97)	9.49 (7.01)	44.72 (32.05)	0.98 (1.12)
	F(2,78)=5.28 (.01)	**F(2,78)=5.08 (.01)**	**F(2,78)=4.1 (.02)**	F(2,78)=2.17 (.12)	F(2,78)=0.79 (.46)	F(2,78)= 0.23 (.79)	F(2,78)=0.55 (.58)	F(2,78)=0.05 (.95)	F(2,78)=2.11 (.13)
	Contrasts: Ended school before/by 16 > Technical **(p<0.01)** Note: Levene = 5.13 **(p = 0.01)**	Contrasts: Ended school before/by 16 > Technical **(p<0.01)** Note: Levene = 4.70 **(p =0 .01)**	Contrasts: Ended school before/by 16 > Technical **(p<0.05)** Note: Levene = 4.06 **(p=0.02)**	Note: Levene = 3.65 **(p=0.03)**					

Education Groups	**Observed Child Behaviour**			
	Child Attention on Task *Mean (sd)*	Child Positive Affect *Mean (sd)*	Child Social Responsiveness *Mean (sd)*	Child Negative Behaviour *Mean (sd)*
Ended school before/by 16 (n= 27)	17.44 (2.42)	10.26 (3.78)	11.78 (4.45)	19.07 (10.44)
Technical/Professional qualification (n=42)	17.45 (2.76)	7.88 (3.13)	10.24 (4.41)	23.76 (15.54)
Higher Degree (n=12)	18.58 (1.73)	8.92 (3.55)	10.50 (5.09)	22.33 (16.51)
All groups (n=81)	17.62 (2.53)	8.83 (3.54)	10.79 (4.52)	21.99 (14.19)
	F(2,78)=1.03 (.36)	**F(2,78)=3.99 (.02)**	F(2,78)=0.98 (.38)	F(2,78)=0.99 (.41)
		Contrasts: Ended school before/by 16 > Technical **(p<0.05)**		

Appendix Q.2. - Table 26: ANOVA Mean differences in observed parent and child behaviour according to parental income at time 1

	Observed Attachment-Related/Positive Parenting				**Observed Negative & Disciplinary/Harsh Parenting**				
Income Groups	Sensitive Responding *Mean (sd)*	Parent Positive Affect *Mean (sd)*	Parent-Child Mutuality *Mean (sd)*	Parental Attending *Mean (sd)*	Parent Negative Behaviour *Mean (sd)*	Clear Commands *Mean (sd)*	Beta Commands *Mean (sd)*	Chain Commands *Mean (sd)*	Criticism *Mean (sd)*
≤£175/week (n= 32)	10.22 (3.41)	8.28 (3.61)	8.31 (3.37)	4.87 (2.00)	11.17 (4.18)	108.53 (62.79)	10.44 (7.66)	55.31 (39.87)	1.30 (1.28)
£176-£325/week (n=29)	10.34 (3.29)	7.28 (3.15)	8.10 (2.94)	4.64 (1.97)	9.23 (3.36)	81.45 (41.01)	7.66 (6.37)	37.00 (22.04)	0.83 (.94)
≥£326/week (n=20)	13.15 (4.04)	8.95 (3.59)	10.60 (3.52)	6.49 (2.18)	9.23 (3.91)	83.20 (52.78)	10.30 (6.79)	40.95 (25.82)	0.66 (1.00)
All groups (n=81)	10.99 (3.70)	8.09 (3.47)	8.80 (3.39)	5.19 (2.15)	10.00 (3.91)	92.58 (54.28)	9.41 (7.04)	45.21 (31.85)	0.98 (1.12)
	F(2,78)=4.99 (.01)	F(2,78)=1.48 (.23)	F(2,78)=4.06 **(.02)**	**F(2,78)=5.50 (.01)**	F(2,78)=2.49 (.09)	F(2,78)= 2.37 (.10)	F(2,78)=1.41 (.25)	F(2,78)=2.88 (.06)	F(2,78)=2.50 (.09)
	Contrasts: (≥£326/week) > (£176-£325/week) **(p<0.05);** (≥£326/week) > (≤£175/week) **(p<0.05)**		Contrasts: (≥£326/week) > (£176-£325/week) **(p<0.05);** (≥£326/week) > (≤£175/week) **(p<0.05)**	Contrasts: (≥£326/week) > (£176-£325/week) **(p<0.01);** (≥£326/week) > (≤£175/week) **(p<0.05)**		Note: Levene = 3.73 (**.03**)		Note: Levene = 3.47 (**.04**)	

Income Groups	**Observed Child Behaviour**			
	Child Attention on Task *Mean (sd)*	Child Positive Affect *Mean (sd)*	Child Social Responsiveness *Mean (sd)*	Child Negative Behaviour *Mean (sd)*
≤£175/week (n= 32)	17.59 (2.24)	9.47 (4.17)	10.97 (4.40)	20.34 (11.43)
£176-£325/week (n=29)	17.48 (2.65)	8.07 (2.62)	10.45 (4.66)	21.00 (14.49)
≥£326/week (n=20)	18.25 (2.81)	8.95 (3.52)	11.80 (4.37)	25.80 (17.54)
All groups (n=81)	17.72 (2.53)	8.84 (3.53)	10.99 (4.47)	21.93 (14.22)
	F(2,78)=0.60 (.55)	F(2,78)=1.22 (.30)	F(2,78)=0.54 (.59)	F(2,78)=1.00 (.37)
		Note: Levene = 4.06 **(.02)**		

Appendix Q.3. - Table 27: ANOVA Mean differences in observed parent and child behaviour according to marital status at time 1

	Observed Attachment-Related/Positive Parenting				**Observed Negative & Disciplinary/Harsh Parenting**				
Marital Status Groups	Sensitive Responding *Mean (sd)*	Parent Positive Affect *Mean (sd)*	Parent-Child Mutuality *Mean (sd)*	Parental Attending *Mean (sd)*	Parent Negative Behaviour *Mean (sd)*	Clear Commands *Mean (sd)*	Beta Commands *Mean (sd)*	Chain Commands *Mean (sd)*	Criticism *Mean (sd)*
Married (n= 46)	11.28 (3.78)	8.02 (3.52)	9.07 (3.26)	5.39 (2.21)	9.22 (3.34)	87.76 (52.70)	9.52 (7.08)	41.46 (25.33)	0.73 (.79)
Cohabiting (n=7)	11.00 (3.65)	7.14 (2.12)	7.86 (3.13)	4.31 (2.87)	8.29 (2.48)	75.71 (32.94)	11.57 (10.97)	21.00 (8.16)	.80 (1.19)
Lone Parent (n = 32)	10.16 (3.57)	8.03 (3.69)	8.38 (3.57)	4.82 (1.89)	11.43 (4.39)	101.66 (57.23)	8.34 (5.72)	53.66 (38.59)	1.34 (1.27)
All groups (n=85)	10.84 (3.69)	7.95 (3.47)	8.71 (3.36)	5.09 (2.15)	9.98 (3.86)	92.00 (53.31)	9.25 (6.95)	44.36 (31.32)	0.96 (1.10)
	F(2,82)=0.89 (.42)	F(2,82)=0.20 (.82)	F(2,82)=0.64 (.53)	F(2,82)=1.15 (.32)	**F(2,82)=4.09 (.02)**	F(2,82)= 1.00 (.37)	F(2,82)=0.69 (.50)	**F(2,82)=3.79 (.03)**	**F(1,83)=3.13 (.05)**
					Contrasts: Married < Lone Parent **(p<0.05)**			Contrasts: Cohabiting < Lone Parent **(p<0.05)** Note: Levene = 3.78 **(p =0.03)**	Contrasts: Married < Lone Parent **(p<0.05)**

Marital Status Groups	**Observed Child Behaviour**			
	Child Attention on Task *Mean (sd)*	Child Positive Affect *Mean (sd)*	Child Social Responsiveness *Mean (sd)*	Child Negative Behaviour *Mean (sd)*
Married (n= 46)	17.91 (2.65)	8.43 (3.02)	10.96 (4.44)	21.74 (15.37)
Cohabiting (n=7)	17.71 (2.75)	8.29 (2.63)	10.43 (4.65)	27.14 (12.92)
Lone Parents (n = 32)	17.22 (2.25)	9.22 (4.30)	10.53 (4.71)	20.16 (12.09)
All groups (n=85)	17.64 (2.51)	8.72 (3.51)	10.75 (4.51)	21.59 (13.99)
	F(2,82)=0.72 (.49)	F(2,82)=0.52 (.60)	F(2,82)=0.10 (.90)	F(2,82)=0.72 (.49)
		Note: Levene = 5.10 **(p =0 .01)**		

Appendix Q.4. - Table 28: ANOVA Mean differences in observed parent and child behaviour according to parental separation at time 1

Parental Separation Groups	Observed Attachment-Related/Positive Parenting				Observed Negative & Disciplinary/Harsh Parenting				
	Sensitive Responding *Mean (sd)*	Parent Positive Affect *Mean (sd)*	Parent-Child Mutuality *Mean (sd)*	Parental Attending *Mean (sd)*	Parent Negative Behaviour *Mean (sd)*	Clear Commands *Mean (sd)*	Beta Commands *Mean (sd)*	Chain Commands *Mean (sd)*	Criticism *Mean (sd)*
Not Separated (n= 46)	11.28 (3.78)	8.02 (3.52)	9.07 (3.26)	5.39 (2.21)	9.22 (3.34)	87.76 (52.70)	9.52 (7.08)	41.46 (25.33)	0.73 (0.89)
Separated (n=39)	10.31 (3.55)	7.87 (3.45)	8.28 (3.46)	4.73 (2.06)	10.86 (4.27)	97.00 (54.27)	8.92 (6.87)	47.79 (37.24)	1.24 (1.26)
All groups (n=85)	10.84 (3.69)	7.95 (3.47)	8.71 (3.36)	5.09 (2.15)	9.98 (3.86)	92.00 (53.31)	9.25 (6.95)	44.36 (31.32)	0.96 (1.10)
	F(1,83)=1.48 (.23)	F(1,83)=0.04 (.84)	F(1,83)=1.15 (.29)	F(1,83)=1.99 (.16)	**F(1,83)=3.96 (.05)**	F(1,83)= 0.63 (.43)	F(1,83)=0.16 (.70)	F(1,83)=0.86 (.36)	**F(1,83)=4.77 (.03)**
									Note: Levene = 6.86 **(p =0 .01)**

Parental Separation Groups	Observed Child Behaviour			
	Child Attention on Task *Mean (sd)*	Child Positive Affect *Mean (sd)*	Child Social Responsiveness *Mean (sd)*	Child Negative Behaviour *Mean (sd)*
Not Separated (n= 46)	17.91 (2.65)	8.43 (3.02)	10.96 (4.44)	21.74 (15.37)
Separated (n=39)	17.31 (2.32)	9.05 (4.04)	10.51 (4.64)	21.41 (12.37)
All groups (n=85)	17.64 (2.51)	8.72 (3.51)	10.75 (4.51)	21.59 (13.99)
	F(1,83)=1.24 (.27)	F(1,83)=0.03 (.87)	F(1,83)=0.20 (.65)	F(1,83)=0.01 (.92)
		Note: Levene = 5.38 **(p =0 .02)**		

Appendix Q.5. - Table 29: ANOVA Mean differences in observed parent and child behaviour according to child's gender at time 1

	Observed Attachment-Related/Positive Parenting				**Observed Negative & Disciplinary/Harsh Parenting**				
Child's Gender Groups	Sensitive Responding *Mean (sd)*	Parent Positive Affect *Mean (sd)*	Parent-Child Mutuality *Mean (sd)*	Parental Attending *Mean (sd)*	Parent Negative Behaviour *Mean (sd)*	Clear Commands *Mean (sd)*	Beta Commands *Mean (sd)*	Chain Commands *Mean (sd)*	Criticism *Mean (sd)*
Male (n= 47)	10.91 (3.78)	7.85 (3.63)	8.70 (3.54)	5.13 (2.25)	10.04 (4.22)	94.70 (58.96)	9.17 (6.37)	48.77 (36.52)	1.06 (1.24)
Female (n=39)	10.85 (3.63)	8.13 (3.28)	8.79 (3.16)	5.10 (2.07)	9.82 (3.39)	88.26 (45.39)	9.64 (7.82)	39.49 (22.66)	0.84 (0.89)
All groups (n=86)	10.88 (3.69)	7.98 (3.46)	8.74 (3.36)	5.12 (2.16)	9.94 (3.85)	91.78 (53.03)	9.38 (7.03)	44.56 (31.19)	0.96 (1.09)
	F(1,84)=0.01 (.93)	F(1,84)=0.14 (.71)	F(1,84)=0.02 (.90)	F(1,84)=0.00 (.95)	F(1,84)=0.07 (.79)	F(1,84)= 0.31 (.58)	F(1,84)=0.10 (.76)	F(1,84)=1.91 (.17)	F(1,84)=0.84 (.36)

Child's Gender Groups	**Observed Child Behaviour**			
	Child Attention on Task *Mean (sd)*	Child Positive Affect *Mean (sd)*	Child Social Responsiveness *Mean (sd)*	Child Negative Behaviour *Mean (sd)*
Male (n= 47)	17.36 (2.52)	8.40 (3.49)	10.26 (4.55)	23.94 (15.16)
Female (n=39)	17.92 (2.46)	9.15 (3.52)	11.41 (4.39)	18.97 (11.93)
All groups (n=86)	17.62 (2.50)	8.74 (3.50)	10.78 (4.49)	21.69 (13.94)
	F(1,84)=1.08 (.30)	F(1,84)=0.98 (.33)	F(1,84)=1.42 (.24)	F(1,84)=2.76 (.10)

Appendix R.1. - Distribution of variables for ethnicity analyses (1):

West African Group (N = 43)

Measures/Variables	Skew	Kurtosis	Normally Distributed?
CARP			
Sensitive Responding	1.266	2.292	Yes
Parent Positive Affect	.724	- .358	Yes
Mutuality	.700	.978	Yes
Child Positive Affect	.935	.579	Yes
CGCS			
Child Attention on Task	-.884	.325	Yes
Child Social Responsiveness	.338	-.870	Yes
Child Negative Behaviour+	1.324	1.073	Yes
MCAST			
Coherence	.068	-.271	Yes
Disorganisation	1.117	.247	Yes
Insecurity	.979	.526	Yes

+Composite Measure

Appendix R.2. - Distribution of variables for ethnicity analyses (2):

White British Group (N = 17)

Measures/Variables	Skew	Kurtosis	Normally Distributed?
CARP			
Sensitive Responding	-1.074	1.320	Yes
Parent Positive Affect	.243	-1.404	Yes
Mutuality	-.597	-.474	Yes
Child Positive Affect	.585	.140	Yes
CGCS			
Child Attention on Task	-.484	-.943	Yes
Child Social Responsiveness	.440	.079	Yes
Child Negative Behaviour+	1.109	.551	Yes
MCAST			
Coherence	.262	.893	Yes
Disorganisation	1.289	.814	Yes
Insecurity	1.547	2.378	Yes

+Composite Measure

Appendix R.3. - Distribution of variables for ethnicity analyses (3):

Black Afro-Caribbean Group (N = 16)

Measures/Variables	Skew	Kurtosis	Normally Distributed?
CARP			
Sensitive Responding	-.055	-.029	Yes
Parent Positive Affect	.179	-.916	Yes
Mutuality	.064	-1.433	Yes
Child Positive Affect	-.326	-.889	Yes
CGCS			
Child Attention on Task	-.344	.726	Yes
Child Social Responsiveness	-.081	-1.215	Yes
Child Negative Behaviour†	.143	-.992	Yes
MCAST			
Coherence	-.155	-1.133	Yes
Disorganisation	.686	-1.425	Yes
Insecurity	.510	-1.492	Yes

†Composite Measure

<u>Appendix S.1.</u> Table 36 - Sample characteristics of main ethnic groups

	West African (n=43)	White British (n=17)	Black Afro-Caribbean (n=16)
% Parental Unemployment	**41.9**	**64.7**	**25.0**
% Left School by 16	**16.3**	**76.5**	**25.0**
% £175/week or less	46.3	37.5	37.5
% Lone parent	**41.9**	**17.6**	**50.0**
% Separated	**48.8**	**23.5**	**68.8**
% Council House/Flat	88.4	68.8	87.5
M (SD) Parent's Age	35.8 (5.8)	33.5 (6.4)	33.3 (8.2)
% Child Male	**51.2**	**82.4**	**43.8**
M (SD) Child's Age	5.1 (0.4)	5.1 (0.3)	5.1 (0.4)
M (SD) No Child's Siblings	1.7 (0.7)	1.7 (1.1)	1.4 (0.8)
M(SD) Attended Sessions (all allocated)	**4.7 (5.5)**†	**7.2 (6.9)**ǂ	**3.7 (5.4)**□

†(n = 23)
ǂ(n = 9)
□(n = 7)